

*United States Marine Corps  
Concepts & Issues*

95



*A Certain Force...*



*United States Marine Corps  
Concepts & Issues*



*. . . for an Uncertain Future*







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# MARINES . . .

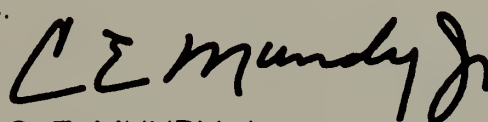
## *Ready, Relevant, Capable*

Marines exist to meet the security needs of the Nation. This past year, the Corps operated world-wide, rescuing American citizens in Rwanda, maintaining the watch off Somalia, conducting migrant rescue and security operations in the Caribbean and ashore in Jamaica, Cuba, and Haiti, responding to crises in the northern Persian Gulf, projecting force into Haiti, and conducting air operations over Bosnia. This pace of activity for the Nation's expeditionary force-in-readiness has gained steady momentum for the past six years since the fall of the Berlin Wall. Seldom in history have Marines been more extensively committed. The focus of national security requirements may have changed since the Soviet demise, but the number and intensity have not. The need for a ready, relevant, capable Marine Corps is unchanged; the requirement for what Marines do remains constant.

Today, the Corps is healthy. We are meeting commitments with operationally ready, well-trained, and highly spirited forces, but the pace is demanding. On average, one-third of Marine infantry battalions, squadrons, and combat service support units are deployed, while another third trains for deployment. The Corps, a total force of 216,000 active and reserve Marines, is today providing a "force-in-use" as well as a "force-in-readiness."

Sustaining today's steadily increasing demands for ready forces with equally steadily decreasing resources has required sacrifice. The President's recent decision to increase the DoD "top line" by \$25 billion is most welcome and appreciated. It will provide the ability to meet authorized pay raises and to provide badly needed quality of life improvements for Marines and their families. However, while its active duty force has been reduced by 13 percent over the past five years, over the same period, Marine Corps spending for procurement and investment has fallen more than quadruple that percentage. We cannot continue this trend, or in the near future, the Corps will have to sacrifice critical core capabilities that are in constant use today. Because we must be ready, we are buying readiness today with dollars not being spent to ensure readiness tomorrow. Readiness in the remainder of this decade will depend on resources for equipment modernization, reduction of maintenance and repair backlogs, and the construction of essential facilities and family housing.

Finally, the Marine Corps is a force of economy. The monies requested by the President to maintain the Marine Corps in FY96 are just under 6% of the total funds requested for defense. In return, the Corps will provide 11% of active U.S. force manpower, 20% of the active divisions, and 14% of tactical aviation. But more than any statistical portrayal, it will provide an unmatched national asset—Marines.



C. E. MUNDY, Jr.  
General, U.S. Marine Corps  
Commandant of the Marine Corps



# PREFACE

*“If a service does not possess a well-defined strategic concept, the public and the political leaders will be confused as to the role of the service, uncertain as to the necessity of its existence, and apathetic or hostile to the claims made by the service upon the resources of society.”*

Professor Samuel Huntington  
Harvard University; 1954

## THE STRATEGIC CONCEPT FOR THE MARINE CORPS

*“A versatile, Expeditionary Force in Readiness”, “. . . A balanced Force for a Naval Campaign and a Ground and Air Striking Force . . .”, “. . . Always at a high state of combat readiness”, “Ready to suppress or contain international disturbances short of war”, “. . . To be the most ready when the Nation generally is least ready.”*

House Armed Services Committee  
Congress of the United States, 1952

The timelessness of Professor Huntington’s words together with the vision of those who “. . . shall have power to raise and support armies . . . provide and maintain a navy . . . and make rules for the government and regulations of the land and naval forces . . .”—the Congress—are enduring. Together, they frame the rationale for a constant among American military capabilities.

Given both its strategic concept and its role by the Congress, the United States Marine Corps is that constant. Never intended to be the sole military capability of the Nation, or to supplant the need for more expansive, heavier service capabilities delegated by the Congress “. . . for the prosecution of war. . .”, Marines are a national “core” capability of preparedness. Ready, forward, immediately responsive to crisis, capable of sustained operations from the sea, nonreliant on logistical “footprints” ashore, and structured to enter forcibly, expand rapidly, and fight decisively, this “core” capability is today, and has been throughout our Nation’s history, a constant in our ability to accomplish an effective national military strategy.

No matter the era—today, or 1775—Marines are a certain force in an uncertain world; a constant force that meets an unchanging requirement in our national arsenal of military capability.

Forty years after Professor Huntington's enduring statement of requirement and the Congress' prescription of a strategic concept for a Corps of Marines, two other respected voices among current military analysts said this:

***“By far the most powerful means for dealing with planning uncertainties is through what has become generally recognized as vision. An institutional vision, by clarifying ‘an organization’s essential sense of identity and purpose,’ can resolve many uncertainties by making them irrelevant or inconsequential to the institution’s sharply defined purposes. For example, the US Marine Corps’ unique sense of identity and clear sense of purpose makes the future uncertainties of budgets and force structures far less consequential than they are to its three brother services, whose identities have become increasingly associated with certain numbers of aircraft carriers, divisions, or aircraft wings. Hence, Marine Corps planning is likely to be less vulnerable than that of the other services to the uncertainty of its future size.”***

Carl Builder and James Dewar  
Rand Corporation  
*Parameters*, 1994

Accurately assessed by these distinguished analysts, Marines have never been measured by organization or things. The capability “deliverable” of the Corps is conceptualized in *Marines*. Carrier battle groups and submarines maneuver at sea; F-15s, F-16s, and F-18s strike; armored brigades conduct warfare at forty miles an hour; . . . and Marines land. “Send in the Marines,” and “The Marines have landed” are storied statements of confidence by America that somehow, the situation is more secure simply because Marines are on the scene.

Although the Corps is, per its strategic concept, a “Force of Combined Arms” equipped with small numbers of the necessary “things” to enable it to fight, the defining “deliverable” of the Corps is, and has always been, measured in people—*Marines*. Far more people-intensive than its heavier, equipment-intensive Service counterparts, the Marine Corps crisis response and warfighting “deliverable” is mandated by adequate numbers of Marines. Thus, the end-strength of the Corps—the numbers of Marines in its ranks—is the critical element in its ability to contribute. Today, the end-strength of the Marine Corps is adequate, and thus, the “deliverable” of the Corps is capable.



Fifty years ago, on an island named Iwo Jima, the American flag was raised by Marines. "That flag-raising," said James Forrestal, the soon-to-be first Secretary of Defense of the United States, "means there will be a Marine Corps for the next 500 years." As we enter the 51st of that 500 year guarantee, the Marine Corps is ready. Indeed, to be otherwise would be contrary to the foundational basis of the Congressional strategic concept that decreed a "Force-in-Readiness" called Marines. The FY96 Budget for the Marine Corps buys readiness. But readiness tomorrow is dependent on modest investment today in replacement of aging, hard-used equipment, maintenance of aging infrastructure, and the conduct of state-of-the-art training.

This 13th edition of ***Concepts and Issues*** describes the unique abilities and contributions of that element in our national arsenal known as *Marines*, and lays out the requirements to maintain this national asset. Given the investment to meet these requirements, generations of Americans yet to come will continue to be able to say:

***"The Marines have landed . . . and the situation is well in hand."***

# CHAPTER 1

## *Marines: A Certain Force for an Uncertain Future*







## CHAPTER 1

### *Marines: A Certain Force for an Uncertain Future*







**A**s America's premier force-in-readiness, the Marine Corps is well positioned for the challenges of the next century. This confidence is firmly grounded in the Corps proven track record of being ready. Marines play a unique and vital role in our national security. Capabilities inherent in flexible Marine air-ground task forces operating as part of naval expeditionary forces, a capability the Marines have continuously refined since the 1930's, are tailor-made for contingencies in today's uncertain world. Additionally, the Marine Corps institutional qualities of adaptability, innovation, cost consciousness, and tradition of success ensure that the Marine Corps will remain relevant and capable in the future. Despite unclear security challenges in the new world order, the Marine Corps well established "911" role will remain a constant in both crisis response and joint sea-air-land operations with other Services in execution of the National Military Strategy. In sum, the Marine Corps will continue to provide a certain force for an uncertain future.

## THE FUTURE OF NAVAL WARFARE

The concept of naval expeditionary forces in . . . *From the Sea and Forward* . . . *From the Sea* expands the application of principles of maneuver warfare doctrine to the projection of maritime power in littoral regions. **Operational Maneuver from the Sea** will couple doctrine with technological advances in speed, mobility, communications, and navigation to seamlessly and rapidly exploit enemy weaknesses. Naval expeditionary forces will employ the advantages of maneuver at sea. Continuous over-the-horizon operations will flow from carrier battle groups and amphibious ready groups to inland objectives.

These operational capabilities reflect the Nation's long-standing reliance on our combined Navy/Marine Corps expeditionary forces. Forward naval forces provide powerful, yet unobtrusive presence, and continuous on-scene expeditionary crisis response capability. They project precise power from the sea and provide vital sealift and deep strike capability for enabling missions of seizing ports and airfields for other follow-on forces if large-scale conflicts emerge. Additionally, they provide capabilities to conduct air, ground, and logistics operations supported entirely by ships at sea. This is a valuable option in regions where the U.S. has vital interests but limited access because of sensitive diplomatic concerns. Naval expeditionary forces provide a wide range of crisis-response options, most of which have the distinct advantage of being



reversible. If diplomatic activities resolve the crisis, naval forces can withdraw without ever having built-up ashore. If diplomacy fails, the Navy/Marine Corps team can project combat power as required.

The ability to sustain forward presence, virtually independent of foreign infrastructure, is one of the most important elements of our crisis-response capability. Our forward-deployed forces, operating and exercising in international waters, can rapidly respond to a local crisis before it escalates. Forward presence is both the foundation of, and the springboard to, protecting national interests and contributing to regional security and stability.

Implicit in a powerful, tailored, sea-based naval expeditionary force is its credible forcible entry capability. New technology allows assault forces to be physically dispersed for simultaneous power projection at multiple, decisive points. These forces will be concentrated electronically and linked informationally. Command, control, and support landing forces will be seamless while projecting power from the sea. The naval expeditionary force must be able to locate and defeat mines and other anti-ship defenses, while it deceives and disrupts the enemy. Naval expeditionary forces will continue to provide the CINCs task oriented and appropriately sized Marine Expeditionary Forces (MEFs), sea-based medium range attack aircraft, and long-range, sea-launched cruise missiles. Critical to the success of **Operational Maneuver from the Sea** is amphibious lift to move credible expeditionary force across the ocean, while possessing the landing craft and airlift to rapidly project Marines and their equipment ashore. Equally critical and unique to the Marine Corps forcible entry capability is its inherent organic sustainability.



With its focus on engagement, partnership, and prevention, the National Security Strategy requires that U.S. military forces remain engaged overseas and capable of rapid projection of decisive combat power in the protection of U.S. interests. These requirements ensure a central role for naval expeditionary forces.

Navy and Marine Corps forces provide capabilities critical to advancing and protecting U.S. interests in peacetime, crisis, and conflict. These capabilities have been well articulated in the DON policy document, . . . *From the Sea* and expanded in the recently published *Forward . . . From the Sea*. These documents shift the Navy operational emphasis away from its traditional "blue-water" focus to a more contemporary one, capitalizing upon the Navy and Marine Corps expeditionary power projection capability by expanding joint littoral operations.

## MARINE "CORE" CAPABILITIES

As an expeditionary force-in-readiness, the Marine Corps provides forces that can be rapidly deployed for contingency missions in support of National Command Authority taskings. The Marine Corps primary role is to provide Fleet Marine Forces of combined arms, including integrated aviation and logistical components, for service as part of a naval expeditionary force. This role supports the unified commanders and the National Security Strategy with global, responsive assets. Two primary attributes—forces that are both expeditionary and combined arms in employment—together with our Total Force package, provide the Nation with a unique military organization.





## ■ **Expeditionary Capability**

An expeditionary mindset permeates every facet of the Corps and shapes its character and capabilities. "Expeditionary" means being able to operate where there was previously no supporting infrastructure because we carry what we need. At the same time, we are able to deploy with less materiel and manpower than required for sustained operations ashore. Expeditionary encompasses far more than the mere presence of forward-deployed Marine Expeditionary Units (MEUs) along the world's littorals. Marines spent the Cold War deploying throughout the world and meeting the challenges of new geography and weather on every deployment. Marines know how to succeed in austere environments because they never focused on a single, well-defined enemy nor depended on a large system of overseas bases intended to contain that threat. This experience will be highly relevant in future contingencies where any local infrastructure will likely range from meager to nonexistent.

A key piece of the Corps' expeditionary capability resides in our maritime prepositioning forces (MPF). Three maritime prepositioning squadrons, capable of delivering equipment and supplies to support a MEF of one division, one wing, and one FSSG, are just a few days steaming time from likely crisis areas. With their capability to offload at sea, these forces can go ashore even when faced with primitive or nonexistent port facilities. Perhaps more important, the MPF carries about 30 days of all classes of supplies, allowing the supported unit to operate without concern for whether tomorrow's beans and bullets will arrive on today's airlift. The recent DoD Mobility Requirements Study recognized the validity of prepositioning afloat and directed that the Army establish an afloat prepositioned

## ***Maritime Prepositioning Forces***

- Each MPF Squadron Provides:
  - Equipment for up to 16,000 Marines
  - 30 days of Sustainment
  - Multiple Deployment Options
  - Quick Response
  - Global Mobility
  - Rapid Buildup of Forces Ashore
- Each Squadron contains the equivalent of 3000 Strategic Airlift Sorties of Equipment and Supplies
  - But requires only 250 to deploy



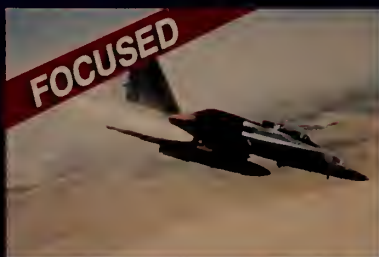
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brigade. This heavy Army force will serve as a useful complement to the Nation's ability to deploy forces rapidly across the spectrum of potential operations, from humanitarian missions to mid-intensity combat.

Marine aviation's expeditionary character makes it unique when compared to the aviation organizations of other Services. For example, the vertical/short take-off and landing capability of the AV-8B "Harrier" allows it to operate from a variety of sea-based platforms, expeditionary airfields, and forward landing sites. Additionally, Marine fixed and rotary wing aircraft have been designed to provide a multi-mission capability. Marine aviation's commitment to expeditionary warfare is emphasized by the ability to quickly transfer ashore and operate from austere bases and hastily constructed runways.

The reusable expeditionary airfield (EAF) system allows expeditionary forces to rapidly construct and operate stand-alone airfields—a significant capability which has no equal. Its flexibility provides the commander with numerous operational options. The logistics needed to sustain Marine aviation is embarked aboard two Aviation Logistics Support Ships. These ships, the USS Curtiss and USS Wright, are maintained in the Ready Reserve, operated by the Military Sealift Command, and used to transport critical intermediate level maintenance and supply support to a forward operating area. They provide the CINCs with logistical leverage because of the varied employment and mobility options. Focused, versatile, flexible, and responsive to the needs of ground forces—Marine aviation is indeed a force multiplier.

## ***Marine Aviation - Force Multiplier***



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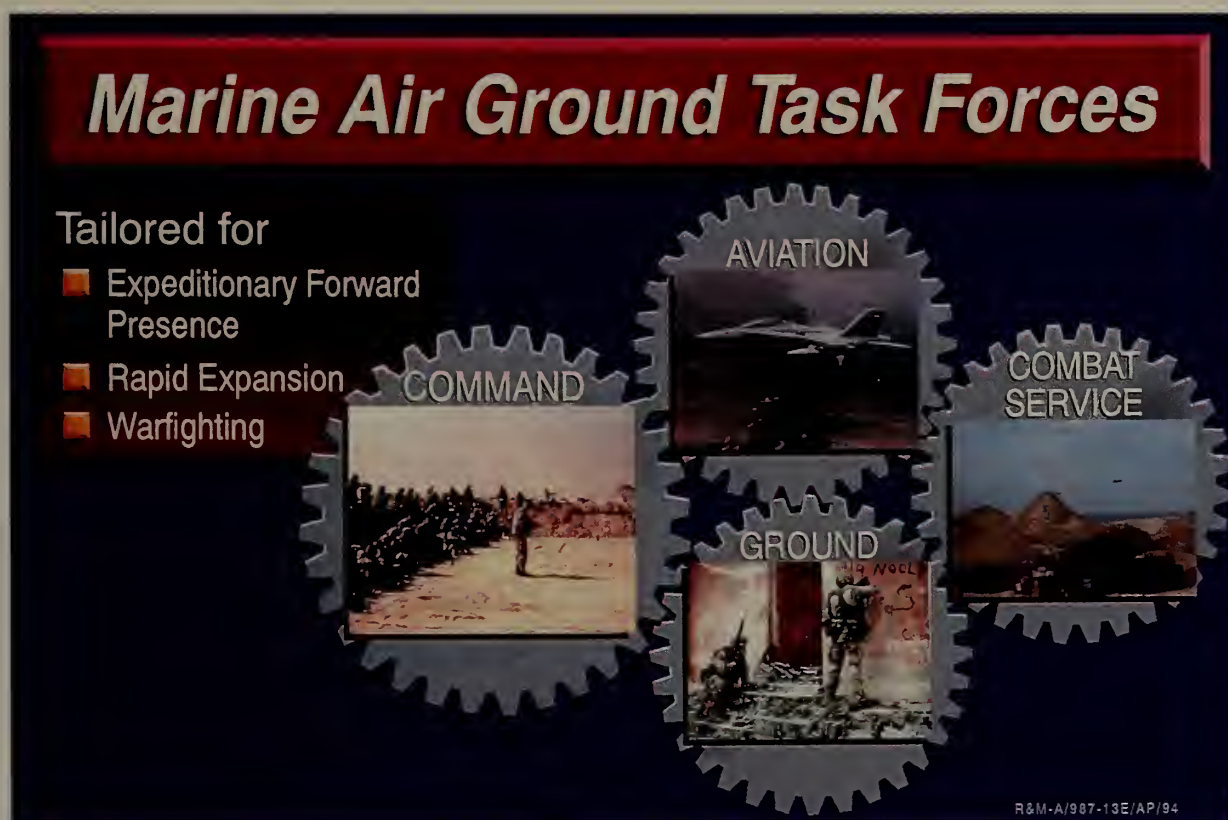


## ■ **Combined-Arms Capability**

The second strength of the Corps is its combined-arms concept and employment. Blending infantry forces, artillery, armor, and tactical aviation, from the water's edge to deep inland, the Corps achieves maximum combat power with a minimum logistical "footprint." As jointness increasingly dominates operations, we must recall that the Marine Corps has always been a "joint" force. Our air and ground components work together on a daily basis and deploy routinely in combined-arms task forces. We have historically been closely integrated with the Navy and have long shared schools with all the Services. We have always and will continue to train, fight, and win as a team.

Marine Air-Ground Task Forces (MAGTFs) are the organizational means by which Marine forces are tailored to meet specific operational requirements. MAGTFs are integrated combined-arms teams, each composed of command, ground, aviation, and combat service support elements. They may have organic tanks, amphibious assault vehicles, light armored vehicles, artillery, and aircraft. MAGTFs range in size from a small Special Purpose MAGTF to a powerful Marine Expeditionary Force. These task-organized, self-sustaining, rapidly deployable units provide a range of combat power from short duration amphibious raids to large-scale, forcible-entry amphibious assaults and enabling operations.

Our team concept operates within each Marine component. Marine divisions, wings, and force service support groups are reservoirs of capabilities that the MAGTF draws upon as required. Marine aviation, armor, artillery, infantry, engineer, and service support units are integrated



on a routine basis for exercises, MEU workups, and deployments. The benefits of combined arms can only be realized by continually training as we will fight. (Refer to Appendix A.)

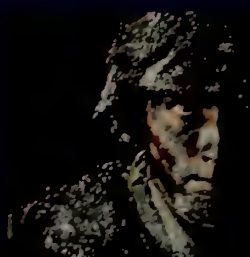
The Corps also goes to great lengths to instill the combined-arms concept in each individual. Each Marine officer is trained as an infantry platoon commander, first and foremost. The Basic School also provides all new lieutenants with a common background in aviation, ground combat, and service support functions. Every enlisted Marine goes through the School of Infantry and acquires basic warrior skills. This assures the Corps a unity of experience and thought no other Service duplicates. Our ability to quickly and smoothly mesh the disparate parts of a MAGTF stems from this common background.

### ■ **Total Force Capability**

The Marine Corps Reserve is an essential part of our team. Inspector-Instructors from the regular component provide our Reserves with fresh experience from the Fleet Marine Force. Reserve units routinely exercise with their active duty counterparts. During the Gulf War, the Marine Corps activated 54 percent of its Selected Reserve force and over 8,000 members of the Individual Ready Reserve. These units and individuals were quickly assigned real-world responsibilities in Okinawa and other forward areas. Reservists deployed as part of the amphibious feint off the coast of Kuwait, and a number of Reserve units filled out I MEF. Marine Reserve infantry, artillery, and armor fought in the Gulf War—and served with distinction. Company B, 4th Tank Battalion destroyed 119 Iraqi vehicles, including 59 tanks about half of which were T-72s, in four engagements without sustaining a loss. Our Reservists share the same commitment to readiness as their active duty counterparts.

## ***Ethos***

***It's not so much how many show up, it's who they are!***



***... MARINES!***

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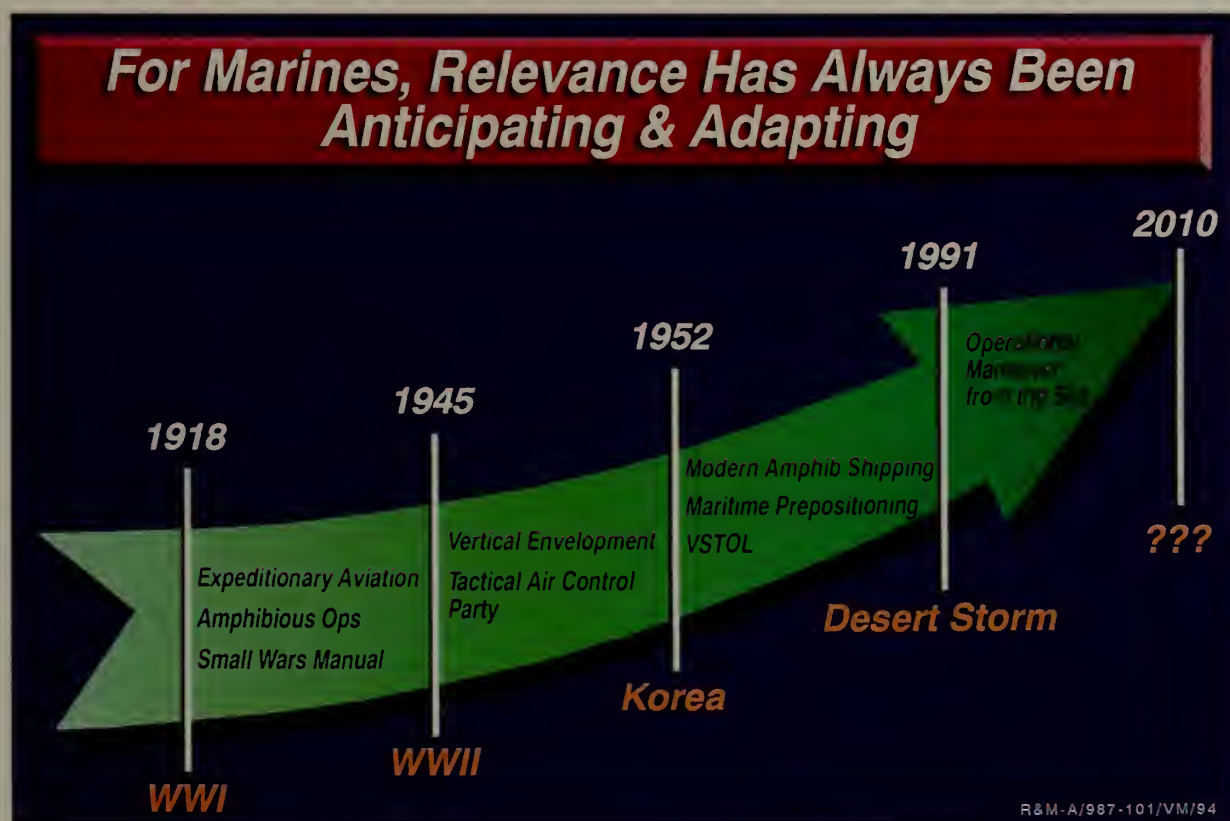


# INSTITUTIONAL VIRTUES

## ■ Innovation

The Marine Corps epitomizes virtues that will be in great demand in the years ahead. Foremost is innovation, which again stems in part from the periodic self-examinations of our role in the national defense structure. After World War I our predecessors sought to redefine the Corps, which had fought alongside the Army in the trenches in France. These visionaries focused on the requirement to develop and advance a doctrine for amphibious warfare. This was while other militaries of the world ignored the amphibious mission, viewing it as an impossible mission in the aftermath of Gallipoli. Marines went further still and developed a beach landing craft and a reef-crossing amphibious tractor. Both became primary tools in the Pacific and Atlantic theaters of World War II. At the same time, the Corps codified its vast experience in low intensity conflicts in the *Small Wars Manual*, a document still relevant today as we prepare for the myriad challenges in the Somalia's and Haiti's of the future.

After World War II the Corps seized upon the helicopter as a means to disperse the amphibious force in response to a nuclear threat. Marines further pioneered the use of helicopters in vertical envelopment during the Korean War. We continue to drive aviation into the future with the AV-8B Harrier and the V-22 Osprey, technologies that will be well suited to delivering fire power and ground forces while dispersing aviation assets ashore to elude weapons of mass destruction. In the 1980's, Marines responded to the challenge of rapidly deploying ground forces to the Middle East by creating the MPF. That capability and its supporting doctrine



was proven in the crucible of war in the early 1990's. As historian Dennis Showalter has noted, the Marine Corps has consistently demonstrated a "history of flexibility" rather than basing its force structure and doctrine on the old refrain, "This is right because this is the way we do it."

### ■ **Cost Consciousness**

Marines, out of necessity, have always been cost-efficient. We maintain a lean force with relatively few generals, senior officers, and senior enlisted, as well as a low officer-to-enlisted ratio. These attributes translate into lower personnel costs. Further, because of our size, and policies which rely heavily on industry and other Services to develop and test new equipment, the Marine Corps spends a smaller share of its budget on infrastructure.

Our flexibility also allows us to do more with less. "Every Marine is a rifleman" is more than just a slogan. Our service support and aviation ground support units are fully capable of defending themselves on the battlefield. In Somalia, the 7th Marines augmented its infantry strength with artillerymen and support personnel. In a similar fashion the Corps supplied other non-infantry units to provide security for refugee collection efforts at sea around Haiti and Cuba and at Guantanamo Bay. These "scratch" outfits were well prepared to handle the challenge. This proven "pinch-hitting" capability means that each and every Marine provides more bang for the buck.

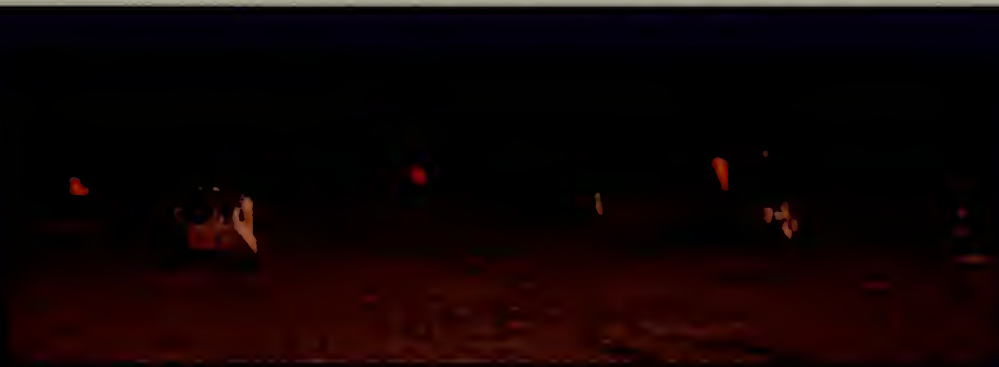


## ■ Tradition of Success

Finally, Marines have a long tradition of winning. The ability to adapt, overcome challenges, and succeed is an integral part of the Marine Corps' ethos—leadership, courage, esprit, and readiness. Our ethos is an inheritance from Marines who have gone before. Ordinary American men and women who became heroes showing extraordinary leadership and courage, both physical and moral, shaped the special character that is the essence of the Marine Corps.

From our first amphibious landing at New Providence in the Bahamas in 1776 through the Pacific campaign in World War II and just recently in Africa, Marines have successfully operated from the sea at all levels of warfare and in situations short of war. We have also stood shoulder to shoulder with the Army in land battles from Bladensburg in the War of 1812, through Korea in 1951, and onto **Desert Storm** 40 years later. No one has ever complained that their battlefield was too crowded with competent fighters, and Marines have always won praise from soldiers and airmen who fought at their side.

Innovative, cost-efficient, and successful . . . these are institutional characteristics which will continue to make the Marine Corps a frequently utilized component in future security decisions.



“...I can't say enough about the two Marine Divisions. If I used words like brilliant, it would really be an underdescription of the absolutely superb job that they did in breaching the so-called impenetrable barrier... Absolutely superb operation, a textbook, and I think it will be studied for many, many years to come.”

General Norman Schwarzkopf, USA



## CHAPTER 2

### *Concepts and Issues*







## CHAPTER 2

### *Concepts and Issues*







**T**he emerging post Cold War era demands a continuing reexamination of all our Defense needs; strategy, service roles and functions, and force structure are under detailed review to right-size the defense establishment to match total resources available. Debates on these issues are an integral part of the decision process and are one of several means of ensuring an efficient, economical and capable defense posture responsive to the Nation's needs. Maintaining ready, relevant, and capable Marine Corps forces in the coming environment requires informed consensus among informed citizens, Congressional representatives, industry, and the national leadership. To assist in this, the following sections articulate the key concepts and issues facing the Marine Corps that are important to the public debate.

## ROLES & MISSIONS

### DISCUSSION

A Service's **role** is "the broad and enduring purpose" for which Congress maintains that particular Service in existence. **Missions** are tasks assigned by the President or the Secretary of Defense to the unified commands. **Functions** are "specific responsibilities" assigned by Secretary of Defense, that "enable the Services to fulfill their legally established roles." The primary function of all the Services is to provide forces organized, trained, and equipped to perform a role . . . and perforce to be employed by a CINC in the accomplishment of a mission. Aside from this broad function, each Service has specific functions as well. As an example, the Marine Corps is specifically charged with the function of developing amphibious doctrine and equipment.

Two factors—the end of the Soviet threat and the expanding size of the federal budget deficit—have intensified public scrutiny of defense expenditures. In the main, these factors forced adjustments in the military by down sizing to achieve budget reductions. Major realignment of roles and missions to reduce perceived redundancies offered the potential of further savings. In 1994, Congress directed the establishment of the Commission on Roles and Missions, to report within a year, with a series of recommendations concerning realignment of Service roles and functional responsibilities. While this report has yet to be issued, it is clear that many of the assumptions with which the Commission originally began its task have already been changed by internal and external events.

But the disappearance of the Soviet threat has not eliminated the need for ready and fully capable Armed Forces. The post Cold War



world has proved to be anything but stable and peaceful, and at the same time that budgets have been coming down, the Services have faced a continuous stream of combat and non-combat challenges which have taxed their organizations to the fullest. Potential redundancies and overlaps in Service warfare capabilities were recognized in the 1947 Key West agreement. The Congress has supported the advantages inherent in having complementary capabilities among the Services. At the National Command level, such flexibility provides additional options to senior decision-makers in a crisis. At the theater level, CINCs can more effectively tailor a military response to any contingency, regardless of location.

## MARINE CORPS POSITION

Current Service functions and capabilities reflect the product of nearly half a century of deliberation and debate focused on gaining the most effective forces possible within the calculus of risk versus resources. The unique role of responding to crisis by projecting, from the sea, combat power ashore within the coastal regions of the world establishes the Navy and Marine Corps as the lead element of a joint "sea-air-land" team. Their capabilities can either resolve the crisis, or can enable other Service warfighting capabilities to be built up for protracted conflict, if required. The synergies and "force sequencing" which the current mix of capabilities permit have proven to be a major factor in achieving the overwhelming edge in combat which obtains decisive results quickly while keeping friendly casualties low. This is the ultimate in both effectiveness and economy.



# MARINE CORPS READINESS

## DISCUSSION

We are operating in a very dynamic yet resource-constrained national security environment. Preserving readiness is a constant struggle to sustain the balance between maintaining forces, necessary recapitalization, and realistic modernization programs. Ultimately readiness is proportional to funding, yet this funding must be carefully directed to take into account the specific nature of the challenges facing the armed forces. For example, the high operating tempos of the last two years have placed particular strain on both manpower and equipment. As both are used more intensively than forecast, they must have greater resources devoted to their upkeep. For equipment this means greater expenditures on maintenance in the near term and a commitment to procure adequate replacements as hardware wears out or becomes technologically obsolete. For manpower, this means ensuring adequate numbers to avoid the need to keep Service members constantly deployed away from home, as well as adequate facilities for family support. At current and projected funding levels our future readiness—recapitalization and modernization—must be sacrificed to pay for the current and near-term readiness of the force. Maintaining force structure, facilities, and equipment into the 21st century will remain a significant challenge.

A key aspect of maintaining readiness is the ability to measure and, to the extent possible, forecast it. Continuing efforts to improve readiness assessments are based on a pattern of attempting to quantify military readiness, then linking readiness to resources. This process involves objective, standards-based measurement, coupled with the assessments of commanders, of the ability of a unit or individual to perform required skills and collective tasks that enable units to fight and win on today's battlefield. In order for emerging measurement methods to accurately reflect readiness levels, they must account for the integrated dynamics of manpower, equipment, operational commitments, and training requirements. The Marine Corps is continuing its efforts to further refine our readiness assessment process.

## MARINE CORPS POSITION

Maintaining readiness is vital to the Marine Corps ability to accomplish its myriad missions. Our most critical priority is to maintain the trained and ready total force of 174,000 Active and 42,000 Reserve Marines demanded by our national strategy and tasked by the Defense Planning Guidance. Current funding is adequate to ensure a capable, ready, and relevant Marine Corps through Fiscal Year 1997, but the balance of readiness is fragile and the trend is downward. If projected budget levels continue as programmed through 1999, readiness of the force will decline thereby increasing the level of risk to Marine forces that must go in harm's way.



As America's "911 Force," the Marine Corps must always be prepared to respond to worldwide contingencies. This preparedness, however, does not come without cost. The Marine Corps is not funded at a level to afford fiscal flexibility necessary to routinely handle unscheduled commitments. These additional requirements increase the need for training and equipment maintenance, while simultaneously reducing the opportunity to perform those tasks.



# MARINE CORPS TOTAL FORCE

## DISCUSSION

As the defense establishment “downsizes”—while simultaneously reorganizing to meet a changing threat—the Marine Corps continues to provide the necessary balance to the risks generated by today’s uncertain and volatile world. The Nation has always looked to the Marine Corps to provide flexible, task-organized forces that offer a wide range of options to the Commander-in-Chief. Traditionally, Marine Corps contributions have focused on sea-based forward presence, peacetime engagement, and crisis response. Preserving a force-in-readiness when the Nation is not is consistent with the intent of Congress.

### ***Force Size***

The ability of the Marine Corps to contribute to the Nation’s foreign policy objectives is directly related to its size. In FY94, the Secretary of Defense directed a Marine Corps total force level of 174,000 active and 42,000 reserves. At this strength level, the Marine Corps is fully capable of performing tasks assigned by the Joint Chiefs of Staff and theater CINCs while maintaining acceptable perstempo for Marines and their families.

### ***Force Quality***

The Marine Corps is a manpower-intensive organization. Our most effective weapons system is the individual Marine, and that is where we invest nearly 70% of our annual budget. While the Marine Corps receives about 6% of the Department of Defense (DoD) budget, we provide about 15% of the Nation’s operating forces, and do so with the highest ratio of combatants to combat service support personnel anywhere in DoD. Our emphasis on keeping the operating forces robust and the support forces lean is visible in our active/reserve mix and officer-to-enlisted ratios.

Our force is young and our grade structure lean. With nine enlisted for every one officer, the Marine Corps has the lowest ratio of all the Services. Nearly 68% of our enlisted force is in the grade of Corporal and below, and the average age is 25. About 75% of our officers are captains and below, with an average age of 33. The young men and women we recruit are among the finest our Nation has to offer. Over 97% of our enlisted recruits are high school graduates and 70% score above the national average on the Armed Forces Qualification Test. Our officer candidates are the most highly motivated and best qualified graduates of America’s colleges and universities.

Our success in combat, and as an expeditionary force-in-readiness, stems from our commitment to a seamless Total Force Concept. Our Marines, active and reserve, retirees and civilian employees, work and train together to ensure we are a viable force. The quality of this commitment was validated during the Gulf War as nearly 60% of Selected Marine Corps Reserve Marines were activated, and over 500 retired Marines were recalled to active duty.



## ***Reserve Force***

The mission of the Marine Corps Reserve is to provide trained and qualified units and individuals to be available for active duty in time of war, national emergency, and at such other times as the national security may require. However, since **Desert Storm**, the Reserve Component has been increasingly called upon to provide peacetime operational support to the Active Component. With sufficient planning, the Commander, Marine Forces Reserve can use Reserve unit training time to both enhance operational readiness and reduce the strain of the operational tempo on the active forces. Such peacetime support by entire units is limited, both by funding constraints and the employment obligations of unit members. The greatest impediment to expanded use of individual reservists to augment active forces is a lack of funding.

## ***Retired Marines***

The Total Force Concept includes a requirement for over 2,300 retired Marines, preassigned to mobilization billets throughout CONUS bases and stations. The capability to call upon a mobilization population of 25,000 retired Marines is included in all pre-mobilization and contingency planning.

## ***Civilian Manpower***

The Corps has the leanest civilian population in DoD, with each civilian employee supporting 10 Marines. Our 18,000 “civilian Marines” are a crucial component of the Total Force. Our civilian personnel are employed in a wide variety of professional, technical, trade, and administrative functions. They provide essential continuity within their functional areas. Each supporting establishment billet staffed with a civilian frees a Marine to fill a billet in a combat unit, thus enhancing training, readiness, and sustainability.

# **MARINE CORPS POSITION**

The Marine Corps has built an efficient Total Force. A force size of at least 174,000 active and 42,000 reserves is essential for the Marine Corps to capably execute its assigned national security responsibilities. Reductions below these levels will significantly degrade our ability to rapidly respond to emergencies and will impose an unacceptable workload on our Marines and their families. Maintaining our readiness is dependent upon the high quality of that force, including both active and reserve, retired Marines and civilian personnel. People are the most important facet of our Corps; and their training, leadership, quality of life, and adherence to our Core Values will continue to be of utmost importance.

# RECRUITING

## DISCUSSION

Maintaining the quality of the Total Force requires the steady inflow of new recruits and officer accessions. The Marine Corps is still hiring, but the impact of force reductions and budget cutting makes the recruiting process far more challenging.

A significant indication of the difficulties the Services are experiencing in recruiting is their failure to achieve their FY94 contracting goals for the first time since FY80. This environment continued through the first quarter of FY95, where each of the Services again fell short of their goal.

The 1994 Marine Corps Awareness and Attitude Study reveals advertising awareness is at its lowest level since before August, 1989—possibly a result of the one-third reduction in advertising funding since FY90. While four out of five of those surveyed have a favorable opinion of the military in general, the number of young Americans simply “not interested” in military service continues to increase.

Recruiters are also experiencing difficulty in achieving minority recruiting goals. While interest has declined among all young Americans, the decline has been sharpest among minorities. Equally, the expanding roles of women in the military has led to a need to increase female accessions by 80% from FY94 to FY99.

The new National Service Plan has attracted the attention of the same target age group, with nearly 47% of the prospects indicating they would consider it. This is a higher level of interest than any of the Services received.

Peacekeeping operations like Somalia and Haiti seem to have contributed to a sense of uncertainty about the future role of the military. Those surveyed indicated that involvement in Haiti made them less likely to consider joining. A full 30% believed that the value and prestige of the military has suffered.

Though the problems seem pervasive, there are encouraging signs. The population of young people in the target age group grows steadily, if slowly, through the year 2000. Congressional testimony and the Deputy Secretary of Defense’s Senior Panel on Recruiting have brought attention at the highest levels to the problems facing recruiters every day. As a result, the Services benefitted from a FY95 budgetary increase for recruiting and advertising programs, a stateside cost-of-living allowance, and the elimination of a required 10% reduction in recruiters. The COLA will help Marine recruiters (and other Service members) living off-base in high cost areas.

## MARINE CORPS POSITION

The individual Marine is the greatest asset in the Marine Corps inventory. The Corps remains committed to recruiting the finest young men and women the Nation has to offer. A strong and adequately resourced recruiting program is vital to that effort.

# POWER PROJECTION CAPABILITIES

## DISCUSSION

Rapidly projecting decisive military power is key to the National Military Strategy in which Marine amphibious and maritime prepositioning forces play a critical role. Revitalizing and improving the capabilities of these expeditionary forces as well as maintaining the necessary platforms is a major goal. To fully exploit these capabilities, the Marine Corps is looking to future technology blended and consistent with newly developed operational concepts. Today, the Marine Corps, in concert with the Navy, is pursuing implementation of the **Operational Maneuver from the Sea (OMFTS)** to take full advantage of the sea/littoral environment and the maneuvering space it provides. Technology will allow us to bring the pieces of OMFTS together which will lead to a tremendous increase of flexibility, agility, and lethality of our Marine expeditionary forces and further expand our power projection capabilities. The following programs and technological initiatives are key to further advancements in systems that support our concepts:

■ **Advanced Amphibious Assault Vehicle (AAAV)** is a critical initiative in our future ability to project power inland from amphibious ships. Increased speed and survivability will allow a faster buildup of combat power ashore, ensuring a greater percentage of the force will survive the projected threat and arrive safely ashore to fight the land battle. Its speed and range enhances our ability to implement OMFTS allowing the Amphibious Task Force to launch the assault from over-the-horizon. The current AAV7A1 family of amphibious assault vehicles will reach the end of their service life within the next ten years and will require replacement. Further details are provided in Chapter 4.

■ **V-22 Osprey** is the medium lift replacement for the aging CH-46 Sea Knights and CH-53D Sea Stallions. While fulfilling the Marine Corps critical medium lift requirement, it also provides an enormous increase in capabilities. The V-22 will allow combat power to transition ashore faster and increase the depth of the battlefield through its enhanced range, endurance, and flexibility. The V-22 will be an integral part in making **OMFTS** a reality. Additional information is provided in Chapter 4.

■ **Maritime Prepositioning Force Enhancement (MPF(E)).** Additional ships are needed to enhance existing MPS Squadrons and fill deficiencies noted in the lessons learned during the Gulf War. These new ships will permit the Squadrons to carry additional equipment and supplies such as the expeditionary airfield, Naval Mobile Construction Battalion, fleet hospital, and additional main battle tanks. The result will be a much improved capability within the Maritime Prepositioning Force (MPF). Further detail is provided in Chapter 4.

■ **Shallow Water Mine Countermeasures (SWMCM)** program is designed to meet the critical requirement of mine countermeasures for our amphibious forces. The technology to detect and clear/neutralize



these threats plays a key role in allowing our forces to maneuver unencumbered throughout the littoral areas under the **OMFTS** concept and to project power ashore.

■ **Naval Surface Fire Support (NSFS)** is critical to operations projecting forces ashore. Technological advances will improve the capabilities of the current 5" naval gun and will permit extended range for the gun and precision accuracy for the ordnance. Further, the potential future installation of the Army Missile System (ATACMS) on board ships will provide a needed boost to NSFS to the Marine expeditionary forces by allowing better support of the maneuver forces, from farther out, resulting in greater survivability.

■ **M1A1 Main Battle Tank (MBT)** provides the direct fire needed by the Marine Corps in its role as the early arrival expeditionary force. As the Corps uses both its active and reserve tank battalions in responding to expeditionary operations, both components require the lethality and survivability of the M1A1. Operational requirements for additional M1A1 tanks embarked aboard Maritime Prepositioning Ships, and to round out the reserve battalions with tanks for training, are currently being pursued.

## **MARINE CORPS POSITION**

Technological advances and continued support for the acquisition of equipment that uses the technology are allowing the Marine Corps to move **OMFTS** from the concept stage to reality. Our technology focus will be on the initiatives that improve the mobility, flexibility, and lethality of our Marine expeditionary forces in supporting power projection and expanding the **OMFTS** concept. Support for these programs will be in concert with both the National Military Strategy and the objectives of the Marine Corps in supporting that strategy.



# AMPHIBIOUS SHIPPING

## DISCUSSION

Naval expeditionary forces, with embarked Marines, provide the Nation with a flexible forward presence and crisis-response force as well as the most formidable forcible entry capability in the world. Arguably the most complex of military operations, the amphibious landing has been the *forte* of the Marine Corps since Guadalcanal. The mere threat of such an assault on the coast of Kuwait permitted the successful flanking attack to the west during the Gulf War.

Joint Staff analysis of standing war plans identifies the amphibious lift required to support the National Strategy. Fiscal limitations have constrained our ability to meet the lift goal. Total lift capacity must also be tailored with the right *numbers* and the right *types* of ships to meet real world day-to-day commitments as well as combat surge capabilities.

Current day-to-day forward deployment tempo requires a 12 Amphibious Ready Group (ARG) base which is recognized by OSD as a valid requirement. The big deck amphibious ship (LHA/LHD/LPH) is the heart of every ARG. Current programming should maintain the number of big decks at 12 for the near term, as new LHDs replace LPHs on a one-for-one basis.

The Mobility Requirements Study indicated the need to respond to two near-simultaneous MRCs requires approximately 3.0 MEB of surge lift. Resource constraints require a programmatic goal of 2.5 MEB lift. There are currently shortfalls in vehicle lift, although Navy initiatives to maintain several LKAs and LSTs in the Naval and Ready Reserve Force reduce risks until the LPD 17 is in commission.

The Marine Corps is concerned with the shortfall in amphibious shipping required to support the National Military Strategy. Early retirements and block obsolescence will sharply reduce the total number of amphibious ships. The LPD 17 program is designed to replace the lift capacity currently provided by four ship classes (LPD, LSD, LKA, LST). The LPD 17 is an affordable, air-capable, LCAC-capable, wet-well, ship that is optimized to meet the required demands. Starting LPD 17 in FY98 as scheduled, and maintaining a 12 big-deck ARG capability, are critical elements to meeting our Nation's future amphibious operational requirements.

## MARINE CORPS POSITION

The issue is more than quantifiable "lift;" the issue is also adequate numbers of the right types of ships with the right capabilities for flexibility and utility. Astute and thoughtful investment in the amphibious ship-building program is required.

The Marine Corps needs a 12th big deck (LHD) to support worldwide forward presence, and a near-term start-up of the LPD 17 program.



# MARITIME PREPOSITIONING FORCES

## DISCUSSION

Employment of the three Maritime Prepositioning Ship (MPS) squadrons during **Desert Storm/Desert Shield** decisively demonstrated the utility of these expeditionary assets to the Nation. The Maritime Prepositioning Force (MPF), to include fly-in Marines, provided the first substantial ground defense capability in theater and contributed to the margin of deterrence that discouraged Iraqis from continuing into Saudi Arabia. Further, MPS squadrons provided sustainment for U.S. Army units in the first month of Operation **Desert Shield**.

MPF assets were most recently used in response to the Iraqi threat to Kuwait, and in Somalia to support the humanitarian relief and security missions of Operations **Restore Hope** and **Continue Hope**. Somalia's infrastructure proved extremely limited and required extensive engineering efforts to enable additional forces and equipment to arrive. During that initial 50-day build-up period, Marine MPF assets provided required logistics support for all United Nations forces ashore.

Lessons learned during these operations revealed the need for a modest increase in MPF lift capacity. The three current MPS squadrons, composed of 13 ships, provide our Nation a unique geo-strategically positioned capability. Our MPF enhancement concept would add an additional ship to each squadron (a total of three new ships) and significantly enhance Marine Corps expeditionary capabilities. Congress has authorized \$110 million for the procurement of one additional ship for MPF.

These additional ships would be loaded with heavy engineer support equipment, fleet hospitals, joint task force augmentation equipment, and expeditionary airfield (EAF) sets. The EAFs would dramatically increase our capability to project combined-arms combat power without dependence on existing airfields or additional aircraft carriers.

## MARINE CORPS POSITION

This MPF enhancement concept is consistent with *Forward . . . From the Sea* and would significantly increase responsiveness to developing contingencies, as well as improve operational flexibility for combat, disaster relief and humanitarian assistance operations.





# V-22/MV-22

## DISCUSSION

Just as the Marines launched the innovation of battlefield helicopters during the Korean War, the Corps again stands on the threshold of a revolutionary capability employing 21st Century technology. For over 25 years, the Marine Corps has championed the development of tiltrotor technology through its number one acquisition priority, the V-22.

On December 9, 1994, the Secretary of Defense announced the decision to replace the CH-46 Sea Knight with the V-22 Osprey. The tiltrotor aircraft has greater speed, range, and payload, and will carry 24 combat loaded Marines into harm's way well into the middle of the 21st century. The V-22 will enable the Marine Air-Ground Task Force to exploit its combat power and more effectively apply the concepts of **Operational Maneuver from the Sea**.

Tactically, the combination of range, speed, and payload of the V-22 nearly triples the depth of the present day battle space. This significantly complicates an enemy's defensive requirements and frustrates his opportunity to concentrate his forces. This ability also allows Naval ships adequate stand off distance to respond to systems such as shore to ship missiles, enhanced observation, underwater mines, and other developing threats. With a cruising speed of 270 knots, the V-22's greater speed and designed-in survivability will reduce combat fatalities, saving our most valuable asset: American lives.

In today's regional environment, the expeditionary Marine is the most cost-effective of easily deployable conventional deterrents. The support these Americans receive must be as comprehensive as possible. With the arrival of the V-22 in the Fleet Marine Force, this breakthrough technology will provide the decisive edge needed to prevail against the increasing sophistication of regional aggressors.

## MARINE CORPS POSITION

The V-22 remains the Marine Corps number one and most critical acquisition priority.



# ADVANCED AMPHIBIOUS ASSAULT VEHICLE (AAAV)

## DISCUSSION

The Marine Corps current amphibious assault vehicle, the AAV7A1, was introduced over 20 years ago. A major extended service program initiated in 1983, coupled with depot level maintenance programs, extended the vehicle's service life until 2004. The AAAP Program is intended to replace the current AAV7A1 family of amphibious assault vehicles, and provide a system that will fulfill the mobility and mission requirements of the Marine Corps beyond 2004.

The objective of the AAAP program is to obtain the most capable and cost-effective vehicle able to deliver the surface maneuver elements of a MAGTF from amphibious ships to inland objectives. It will provide a forcible entry amphibian capability, and serve as the principal means of **tactical** surface mobility for the landing force during subsequent combat operations ashore. The AAAP will complement the LCAC and the V-22 tiltrotor aircraft in improving amphibious lift and tactical mobility for Marine forces. It will revitalize the survivability of the amphibious task force by providing a significantly faster build up rate of combat power ashore while providing increased flexibility to the Task Force Commander.

Operationally, the AAAP will satisfy multiple mission area needs and support the Marine Corps concept of **Operational Maneuver from the Sea (OMFTS)**. It will allow the Navy and Marine Corps to link maneuver at sea with maneuver ashore into a single seamless stroke. It will provide high water speed and uninterrupted maneuver transport of forward-deployed Marine maneuver forces from amphibious ships located *over the horizon through the beach and to inland objectives*. It will also provide armor-protected land mobility and supporting fires to Marine infantry during subsequent operations ashore under adverse conditions including a nuclear, biological, and chemical environment.

The AAAP will be the Marine Corps principal means of accomplishing surface power projection and, if necessary, forcible entry against any level of defended coastline. It will provide the essential mobility to execute **OMFTS**, now lacking with LCACs carrying AAV7A1s ashore. While the United States cannot expect to gain complete strategic or operational surprise, the Marine Corps ability to introduce forces at a time and place of our choosing gives us a critical tactical advantage.

## MARINE CORPS POSITION

The Marine Corps has selected a preferred alternative for the AAAP Program that meets the operational requirements of speed, mobility, protection, and firepower; and intends to seek approval in FY95 to enter the Demonstration/Validation phase.



# MARINE TACAIR

## DISCUSSION

One of the unique capabilities of Marine Corps tactical aviation is its flexibility to operate across the spectrum of basing options. Marine squadrons are capable of operating from conventional airfields such as those made available in the Persian Gulf. In the absence of adequate runways, Marine aviation's EAF system provides the capability to rapidly construct stand alone airfields to support forward-based tactical air operations. Additionally, Marine squadrons have historically deployed aboard aircraft carriers continuing a long tradition as a sea-based airpower.

From a historical perspective, TacAir integration is not a new concept. Marine squadrons deployed aboard aircraft carriers in World War II and the Korean War. During the Vietnam War, Marines flew from carrier decks and participated in operations such as **Linebacker II**. More recently, Marine squadrons took part in Operation **El Dorado Canyon**, the air operations against Libya, while assigned to the USS Coral Sea in 1986. To date, Marine squadrons, operating as part of Navy Carrier Air Wings, have participated in such operations as **Southern Watch**, **Restore Hope**, and **Deny Flight**. Marine TacAir squadrons not deployed with the Navy continue to operate as integral parts of MAGTFs.

TacAir integration has benefits and costs. Marine squadrons retain the corporate knowledge necessary to maintain the versatility of basing options, while the Navy Carrier Air Wing receives a further dimension to its already formidable capabilities; that being the Marine Corps ability to provide close air support to ground forces. Further, the addition of Marine Corps F/A-18 and EA-6B squadrons to Carrier Air Wings help reduce the perstempo burden on Navy personnel, but increases deptempo for Marines while reducing availability for integrated MAGTF training. TacAir integration has become a part of the Total Force Concept as a Marine Corps Reserve F/A-18 squadron is integrating into the Naval Reserve Carrier Air Wing.

On 31 August 1994, the Commandant and the Chief of Naval Operations agreed to place all Department of the Navy tactical air resources under central management for deployment scheduling. The Memorandum of Agreement replaces a 1993 MOA which dedicated three strike fighter and one electronic warfare squadron to the active carrier wing pool. Now all Navy and Marine squadrons will be available under a standard criterion of personnel tempo, which is defined as no more than 50 percent deployment from home base over a five-year period. In theory, commitments for a carrier deployment or an overseas rotation to the 1st Marine Air Wing in Japan could be met by any Navy or Marine squadron. However, seven Marine AV-8B squadrons will be considered only to preclude perstempo violations, and Navy F-14 squadrons will not be included until after FY97. Deploying squadrons will report to designated air wings six to nine months in advance of scheduled deployments, and remain with



them until a month following the cruise. The new measure was prompted when the DON did not buy F/A-18 replacements for five A-6 squadrons previously scheduled for conversion.

## **MARINE CORPS POSITION**

While Marine Corps fixed-wing assets can augment the Navy's active and Reserve carrier air wings, this must not be at the expense of their expeditionary capability or their capacity for close integration with Marine ground combat elements. At present, further TacAir integration would not be beneficial.



# MARINE CORPS INFRASTRUCTURE

## DISCUSSION

The bases and stations which comprise the Marine Corps infrastructure consist of 16 major installations in the United States and Japan. In keeping with our expeditionary nature, these installations are strategically located near air and sea ports of embarkation, serviced by major truck routes and railheads, to allow for the rapid and efficient movement of Marines and materiel.

Infrastructure development planning is designed to provide facilities for the efficient training of the air/ground combat team while minimizing excess or redundant capacities. The obvious advantages to such a lean infrastructure are efficiency and cost-effectiveness. The challenges arise in maintaining a system with such limited redundancy in the face of external pressures and declining fiscal resources.

These challenges to maintaining our infrastructure include environmental compliance, encroachment control, dwindling fiscal and manpower resources, base realignment and closure proceedings, and quality of life concerns. These issues are summarized below.

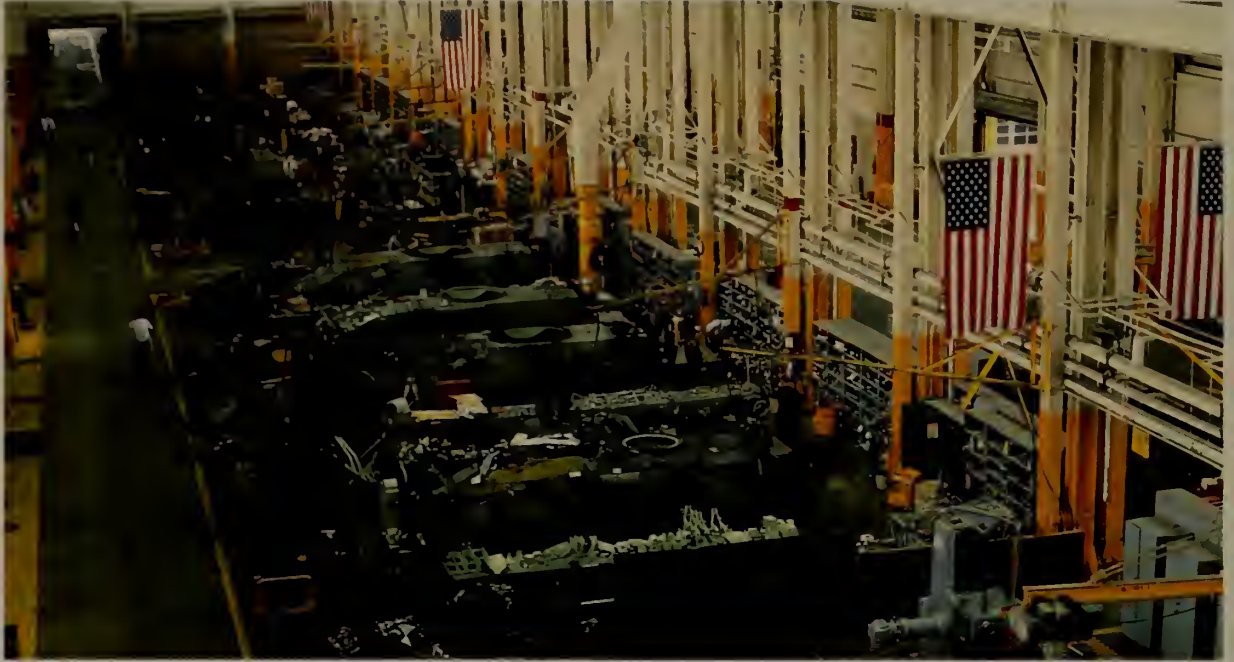
**Environmental Compliance.** We recognize that protection of the environment is a national priority and are aggressively pursuing environmental compliance and pollution prevention. Correcting past management practices and replacing an aging infrastructure to meet new compliance requirements are becoming increasingly difficult as fiscal resources decline. Pollution prevention and ecosystem (vice species) management are two strategies being emphasized to achieve economical and sustained environmental compliance.

**Encroachment Control.** Once sited in remote areas, many of our installations are now surrounded by communities. This growth is often accompanied by pressures for access to our resources or demands to curtail operations to make them more compatible with community needs. Additionally, regulatory requirements such as endangered species protection continue to erode unlimited access to areas needed for training. We maintain an aggressive encroachment control program, which has resulted in win-win solutions to meet these demands while not degrading the mission effectiveness of our installations. Encroachment takes many forms and requires constant vigilance and support to ensure the continued viability of our bases and stations.

**Base Operating Support.** Providing an efficient infrastructure with the necessary facilities and quality of life features requires investment in both maintenance and capital improvements. Resources to apply to these requirements are continually squeezed, resulting in an increasing backlog of maintenance and repair. Additionally, our limited MCON dollars have recently been predominantly directed into environmental compliance



upgrades to our infrastructure, not allowing sufficient resources to be devoted to replacement of an aging plant account. We are meeting these challenges through various means, including technological changes to increase productivity, but will require continued visibility and support of our programs throughout the budget process.



**Civilian Manpower.** Installation management requires a diverse staff possessing skills ranging from the electrical and plumbing trades to professionals trained in environmental science and law. We have actively pursued more efficient business practices, including outsourcing various functions and use of low maintenance technologies. This is evidenced by the fact the Marine Corps has the lowest ratio of civilian to military employees within DoD. Continued reduction of civilian personnel is, however, impacting our ability to adequately maintain our infrastructure. Support at all levels is required as we make every effort to slow this decline.

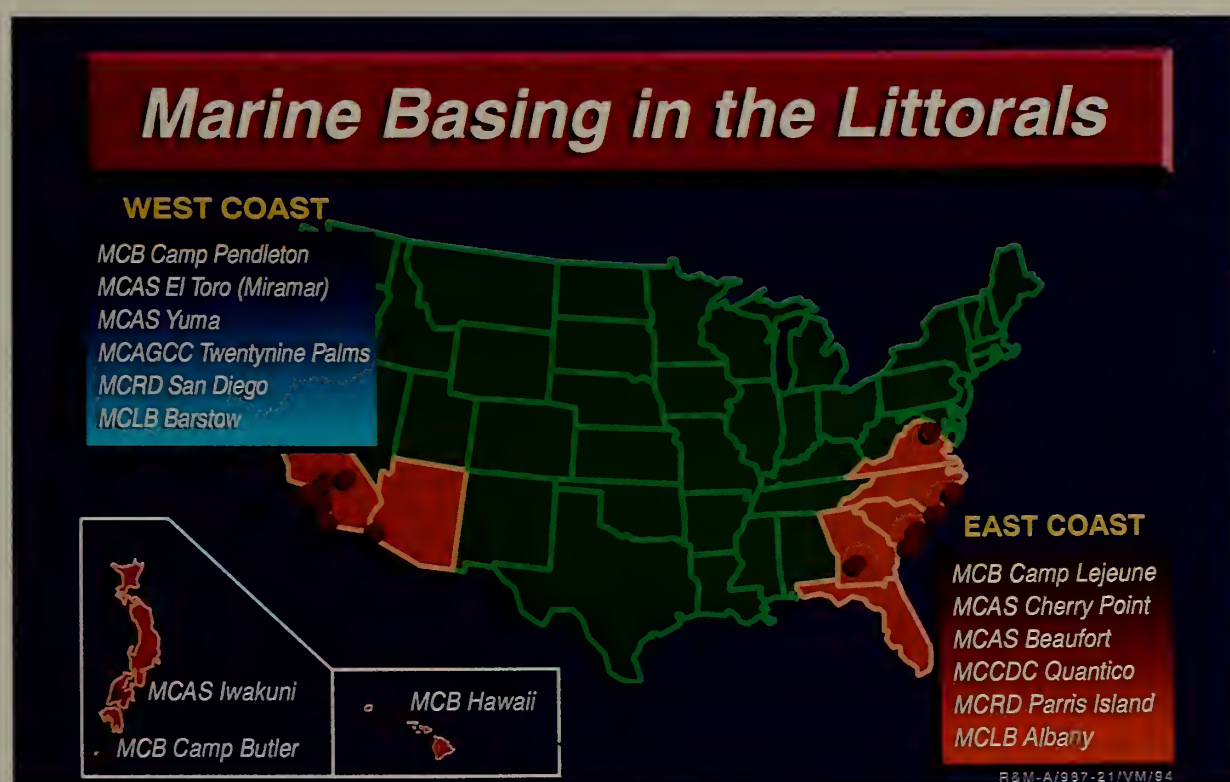
**Base Realignment and Closure.** The limited size, and lack of redundancy within our supporting establishment is a two-edged sword. The efficiencies associated with such a physical plant and its strategic location in support of our air/ground team, are great benefits. During this period of force and base structure reductions, however, finding the means to further reduce infrastructure capacity while providing adequate facilities to meet the needs and maintain the integrity of our MAGTF organizations, is difficult. Decisions made during 1995, as part of the last round of base realignments and closures, will provide the blueprint of infrastructure to support the Marine Corps well into the next century. Implementing these decisions will have significant up-front costs to achieve long-term economies, and will require continued resource commitment at all levels within DoD and Congress.



**Quality of Life.** A supporting establishment that helps attract and retain our outstanding Marines, Sailors, and their families requires a commitment to their quality of life by providing housing, recreational amenities, facilities for child care, family services, community support centers, and more. We are experiencing significant housing shortages in certain areas. Our plans to reduce the impact of this shortage are contained in the next section. Implementation of our Bachelor and Family Housing Campaign Plans will provide a supporting establishment equal to or better than our sister Services and will be instrumental in the recruitment and retention of our Marines. We will maintain this commitment to excellent facilities through the collective leadership skills and managerial abilities resident in the operating forces and the supporting establishment. This commitment will ensure an excellent supporting establishment for future generations of Marines.

## MARINE CORPS POSITION

Support for our programs to provide the most efficient and effective infrastructure for our Marines has been outstanding. This support was based on acknowledgement that we had a long range plan and goals to provide an economical infrastructure, that minimized redundancy, improved our training capabilities while providing the necessary quality of life features and environmental stewardship of our resources. The results of our deliberate planning are evident in an infrastructure unparalleled in capability and efficiency to support America's expeditionary force-in-readiness. The challenges facing us in environmental compliance, encroachment control, provision of fiscal and manpower resources, base closure, and quality of life are formidable. However, with continued support from this country's leadership, our vision for the future will be realized.



# QUALITY OF LIFE

## DISCUSSION

The challenges we face as an institution are not limited to technical or tactical facets of our profession of arms. Rather, they transcend the battlefield to include emerging social changes within our military society. In 1994, we achieved our final force reduction goals rendering the leanest Marine Corps that this Nation has seen in over 30 years. At the same time, we have witnessed an unparalleled growth in the number of military dependents which have created a demand for services and support the likes of which we have not seen.

We have taken great strides to meet the needs of our Marines and their families. By comparison, we are behind our sister Services in social support services. The Commandant recognizes this, and as a further measure, he has commissioned a special task force to develop a strategic (5 year) plan. This task force, "Marines 2001—A Quality Life," is working on a plan that will continue to capitalize on the current momentum and carry us into the next century.

Quality of Life for the Marine Corps is defined as **"the result of the sum of all programs, systems, organizations, individuals, and initiatives that contribute to the physical, mental, financial, and emotional well-being of a Marine or a Marine's family; to a Marine's individual or unit mission accomplishment; and to the personal readiness of all Marines to serve wherever required."** We have committed some scarce operational dollars to ensure our quality of life programs provide the most essential services—most notably:

- Family Advocacy Program
- Morale, Welfare, and Recreation
- Child Care
- Bachelor Quarter
- Family Housing
- Command Religious Programs

We very carefully balance the requirement to divert additional resources to these deserving programs without compromising our readiness. Historically, the Marine Corps has had to make difficult choices between operational readiness and quality of life programs in order to adequately fund the latter. These choices have, in some categories, kept us below par when compared to the other Services. Secretary Perry's initiative to increase quality of life funding for all Service members will certainly continue to improve conditions for our Marines and their families, but as the gap between requirements and resources increases, we recognize that future programming tradeoffs may continue to be necessary.



Our readiness and operational responsiveness remain our number one priority. Operational necessity precludes immediate additional investment in some of these deserving programs. Until such time as adequate funding is available to preserve our critical core capabilities, which define our readiness as a service, resources cannot be diverted at the rate we would like to overcome quality of life deficiencies.

## **MARINE CORPS POSITION**

In recent years, the themes of “Relevant, Ready, and Capable” and “America’s 911 Force” have defined and focused our effort. Today, the Marine Corps will adopt a third theme, one that emphasizes the priority we put in sustaining and, in some cases, improving the quality of life of Marines and their families. “Marines 2001—A Quality Life” is more than a slogan—it is a commitment that complements our readiness and responsiveness which have proven to be the worth of the Corps. Moreover, it is the term that will serve as the center of balance for our aggressive Quality of Life programs that have the Commandant’s full attention.





# CHAPTER 3

## *Current Operations*







## CHAPTER 3

### *Current Operations*









**T**he United States Marine Corps is a unique American military organization. Frequently a CINC's force of choice in a crisis, Marine forces are forward-deployed and often in position as a crisis is unfolding. Additionally, they stand ready to deploy needed forces or reinforce with Maritime Prepositioning Forces (MPFs) quickly, effectively, and with sufficient flexibility to deal with diverse and sometimes multiple situations. In addition to the quick response capabilities of our forward-deployed Marine Expeditionary Units (MEUs) and MPFs, sea-based MEUs have the ability to operate without access to land bases providing a high degree of selectivity as to when, where, and what force could be employed. This tremendous political and military capability is not offered by other United States military Services. With the continued emphasis on joint and combined operations, the Navy/Marine Corps team will play an increasingly vital role to our Nation's security and crisis-response capability.

## **CURRENT OPERATIONS**

In 1994 the Navy/Marine Corps team demonstrated flexibility and dynamic capabilities by responding to crises around the globe. From humanitarian relief and peace operations to forward presence and crisis response, the Marine Corps has been engaged worldwide, answering the Nation's call with task-organized, well trained forces. The Navy/Marine Corps team has proven to be the foundation of peacetime forward presence operations and overseas response to crises. Our expeditionary character enables us to contribute heavily during the initial phases of a crisis and during the transition from crisis to conflict. The unique capabilities inherent in naval expeditionary forces have never been in higher demand. As evidenced by operations in Somalia, Haiti, Cuba, Rwanda, and Bosnia, U.S. theater commanders continue to turn to naval expeditionary forces to meet their forward presence and crisis-response requirements to protect U.S. citizens and interests worldwide. In addition to our global commitments the Marine Corps has also been engaged at home supporting U.S. government agencies in counterdrug operations, fighting major forest fires in the Pacific Northwest, assisting flood victims in the southeast, and helping earthquake victims in California.

OPERATION NAME	DATES	OPERATION DESCRIPTION	USMC UNITS	COUNTRY/ LOCATION
<b>Provide Promise</b>	July 92 to present	US participates in the implementation of UN resolutions providing humanitarian assistance/peace-keeping in former Yugoslavia.	MEU(SOC) units from II MEF	Adriatic Sea
		USMC forces providing security for USN fleet hospital.	MPs from 2d FSSG/II MAW	Zagreb, Croatia
<b>Able Manner/Able Vigil</b>	Jan 93 to Oct 94	Marines support the interdiction of Haitian and Cuban migrants with security teams on USN/USCG vessels.	II MEF	Windward passage/straits of Florida.
<b>Deny Flight</b>	April 93 to present	US participates in the enforcement of UN resolutions establishing a no-fly zone over Bosnia-Herzegovina. USMC F/A-18 Squadrons participating.	MAG-31 Beaufort, SC	Flying from Aviano, Italy
<b>Continue Hope</b>	May 93 to Mar 94	Formerly Restore Hope (Dec. 92– May 93) US contributes forces to support UN humanitarian relief operations in Somalia. Conducted split ARG OPS, providing QRF & Rear guard security for W/D of U.S. forces from Somalia.	MEU(SOC) units, I and II MEF	Mogadishu, Somalia and off the coast of Somalia
		Provide internal compound and convoy security for United States Liaison Office in Mogadishu, Somalia.	Fleet Anti-terrorist Security Teams from Norfolk, VA	Mogadishu, Somalia.
	14–20 Mar 94	Marines and Naval forces conducted operations ISO Search and Rescue mission for downed AC-130 off Kenya.	11th MEU(SOC) from I MEF	Malindi, Kenya
<b>Support Democracy</b>	Oct 93 to Oct 94	Marines provide contingency operations force afloat in support of the enforcement of UN sanctions against Haiti.	II MEF MEU(SOC) units and SPMAGTF	Off the coast of Haiti
<b>Distant Runner</b>	Apr 94	Marines provide security forces in support of evacuation of American citizens from Rwanda in response to civil unrest caused by deaths of the presidents of Rwanda & Burundi.	11th MEU(SOC) from I MEF	Off coast of Kenya and Bujumbura, Burundi
<b>Sea Signal</b>	May 94 to present	Marines participate in Haitian and Cuban migrant processing and safehaven security in support of US Joint Task Force 160.	II MEF	Guantanamo Bay, Cuba Naval Station
<b>Task Force Wildfire</b>	1 Aug 94	1,100 Marines provide fire fighting assistance to the National Inter-Agency Fire Center battling wild fires in the western United States.	1st Marine Division	Washington State and Montana
<b>Support Hope</b>	Aug– Sep 94	US forces provide rapid assistance to relief efforts in Rwanda and Goma, Zaire. USMC CH-53E helicopters provide lift and aerial reconnaissance.	15th MEU(SOC) from I MEF	Mombasa, Kenya and Goma, Zaire
<b>Uphold Democracy</b>	Sep 94	Marines secure Cap Haitian, Haiti as part of the US force participating in the restoration of democracy in that country.	II MEF SPMAGTF	Cap Haitian, Haiti
<b>Vigilant Warrior</b>	Oct 94	Rapid deployment of US forces to SWA to counter Iraq's military buildup south of the 32d parallel. Conducted a selective off-load of MPS-2 ship MV Hauge.	MARCENT I MEF(FWD) and 15th MEU(SOC)	Kuwait and Saudi Arabia



## EXERCISES

During FY94, Marines participated in 284 “named” and numerous “unnamed” exercises. These included **Cobra Gold** (Thailand), **Dynamic Guard** (Turkey), **Alexandros** (Greece), **Agile Provider 94** (USA), **Beachcrest 94** (Okinawa, Japan), **Bright Star** (Egypt), **UNITAS** (South American Countries), **West Africa Training Cruise** (Africa), **Ulchi-Focus Lens** (Korea), **Indigo Musket** (Saudi Arabia), **Infinite Moonlight** (Jordan), **Iris Gold** (Kuwait), **Iron Magic** (United Arab Emirates), **Keen Edge** (Japan), **Nautical Mantis** (Saudi Arabia), **Neon Moon** (Bahrain), **Native Fury** (Kuwait), **RIMPAC** (Australia), and **Valiant Blitz** (Korea) to name only a few.

## COUNTERDRUG OPERATIONS

Marines have been actively engaged in providing assistance to the Nation’s “counterdrug effort.” During FY94, in support of Joint Task Force Six (JTF-6), Marines participated in 109 counterdrug (CD) missions along the U.S. Southwest border. Of these, approximately 40 percent were completed by Marine Reservists from the 4th Division/Wing Team. Individual Marines and units assigned to these CD missions perform a supporting role to both local and federal law enforcement agencies who are responsible for making apprehensions and/or arrests of suspected traffickers.

Typical Marine support missions have included: listening and observation posts, small construction engineer projects, diver hull inspections, vehicle cargo inspections, linguist support, intelligence analysis support, ground based radar support, and aviation support.

The Marine Corps continues to be proactive in supporting efforts of the U.S. Commander in Chief South (USCINCSOUTH) to deny importation of drugs into the U.S. by stopping exportation from sources in Latin America. The Marine Corps supports this mission primarily via Mobile Training Teams (MTTs), Extended Training Service Specialists (ETSSs), and Deployments for Training (DFTs) that assist in training host nation military organizations and law enforcement agencies that have counterdrug missions.

FY95 will see the conclusion of the first phase of a program to build a viable riverine force for the Colombian Marine Corps. Training of all the Riverine Combat Elements has been completed and the final equipment purchases will arrive in country this year. Additionally, the Colombian Marine Corps has established a riverine school with qualified instructors and Programs of Instruction (POIs) developed by CG MCCDC as part of the program. Future efforts will focus on sustainment of the force. For the Marine Corps, this means no more large MTTs but rather smaller numbers of people deployed for longer periods of time, such as ETSSs. Most importantly, the Marine Corps now has a model for any future undertakings of this type.

# MILITARY SUPPORT TO CIVIL AUTHORITY

The Federal Government also provides an orderly and continuing means of supplemental assistance to state and local governments in their responsibilities to alleviate the suffering and the damage resulting from major disasters or emergencies. Upon declaring a major disaster or emergency under the Stafford Act, the President may direct the Armed Forces to provide assistance to state and local agencies in cooperation with the Federal Emergency Management Agency (FEMA). For example, Marines from Camp Pendleton, California provided a task organized Combat Service Support Detachment that distributed over 39,000 gallons of potable water and provided linguist support to the disaster victims of the Northridge Earthquake. Furthermore, during the Southeast Floods, Marine Corps Logistics Base, Albany, Georgia provided substantial personnel, equipment, and base facilities support to the City of Albany and the surrounding flooded environs.

The Departments of Interior and Agriculture have entered into a Memorandum of Agreement (MOA) with the Department of Defense that allows DoD to provide assistance to the National Inter-Agency Fire Center (NIFC) when wildland fire fighting resources have been exhausted. Under this MOA, 1,100 Marines and Sailors from the 1st Marine Division fought wildland fires in Washington State and Montana as members of Task Force Wildfire this year.



## CHAPTER 4

### *Major Acquisition Programs*







## CHAPTER 4

### *Major Acquisition Programs*









**T**his chapter provides background information regarding key programs being pursued by the Marine Corps, or acquired by the Navy, to permit execution of the *Forward . . . From the Sea* naval warfare concept. These programs aggressively exploit technological advancements in order to improve readiness; enhance intelligence and information processing; increase the speed, mobility, and supporting firepower of expeditionary forces; and significantly minimize potential casualties during future operations. This chapter is divided into four parts that correspond to each element of the MAGTF and a final part which addresses general MAGTF support programs.

## **PART 1**

### **COMMAND ELEMENT (CE) PROGRAMS**

This Section provides a basic description of the Marine Corps C4I programs/systems under development which will be fielded during the FY95–96 timeframe. The system descriptions are organized according to the primary command and control (C2) functional area which they support:

**Maneuver.** Maneuver systems function to pull and fuse information from the other C2 functional areas. They provide the commander with an integrated representation of the battlespace or area of concern.

**Intelligence.** Intelligence systems support the employment of reconnaissance, surveillance, and target acquisition resources, as well as the timely planning, processing, and dissemination of all-source intelligence.

**Air Operations.** Air Operation systems are used to coordinate and plan Navy and Marine Corps air combat operations and interface with joint and combined forces air operations systems. These systems also interface directly with the fire support systems.

**Fire Support.** Fire Support systems integrate the artillery and air support within the MAGTF and naval gunfire for joint and combined fire support.

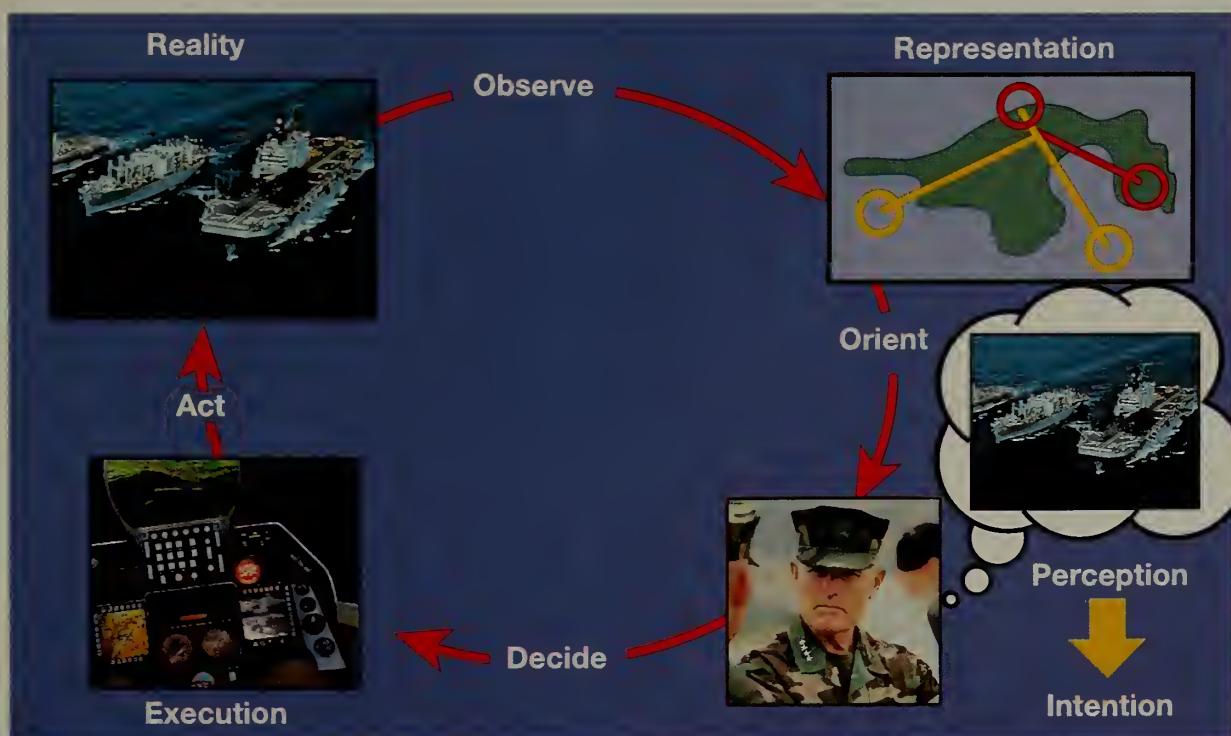
**Combat Service Support.** Combat Service Support systems ensure effective administrative and logistics planning and operations. This includes manpower management and all logistics functions that support deployment, employment, and reconstitution of forces.

**Command and Control Warfare.** Command and Control Warfare systems coordinate C2 and protection actions in support of C2 warfare operations.

## MAGTF C4I

MAGTF C4I is the overarching concept for integrating communications and tactical data systems (TDS) on the modern battlefield. The purpose of MAGTF C4I is to provide Fleet Marine Force (FMF) commanders with the means to manage the complexity of the modern battlefield. MAGTF C4I will provide commanders and their staffs the capabilities of sending, receiving, processing, filtering, and displaying data to aid their tactical decision making. By using a standard suite of computer hardware (Marine Common Hardware Suite or MCHS) and a standard set of system software (Marine Common Applications Support Software or MCASS), any workstation on the system will have the same look and feel as any other system. MAGTF C4I also provides connectivity to the digital communications switch system "backbone."

MAGTF C4I systems will be operable both in garrison and deployed environments. Specifically designated systems will be operable aboard ships. MAGTF C4I will have the ability to integrate Marine ground, aviation, and combat support element systems as well as the ability to function in the joint arena. Functionality within MAGTF C4I will include elements capable of collecting, analyzing, and disseminating information; providing fire support planning and fire support coordination; coordinating and controlling both offensive and defensive air operations; providing logistics planning and coordination; maintaining tactical graphic displays of battlefield situations; and communicating this information both electronically and digitally to adjacent, higher, and subordinate units. These functions will provide accurate and rapid information for developing courses of action and decisions; translating the commander's decisions into plans and orders; communicating these plans and orders to other units; supervising the execution of plans and orders; and supporting the commander's ability to exploit MAGTF capabilities in rapidly changing and developing situations.



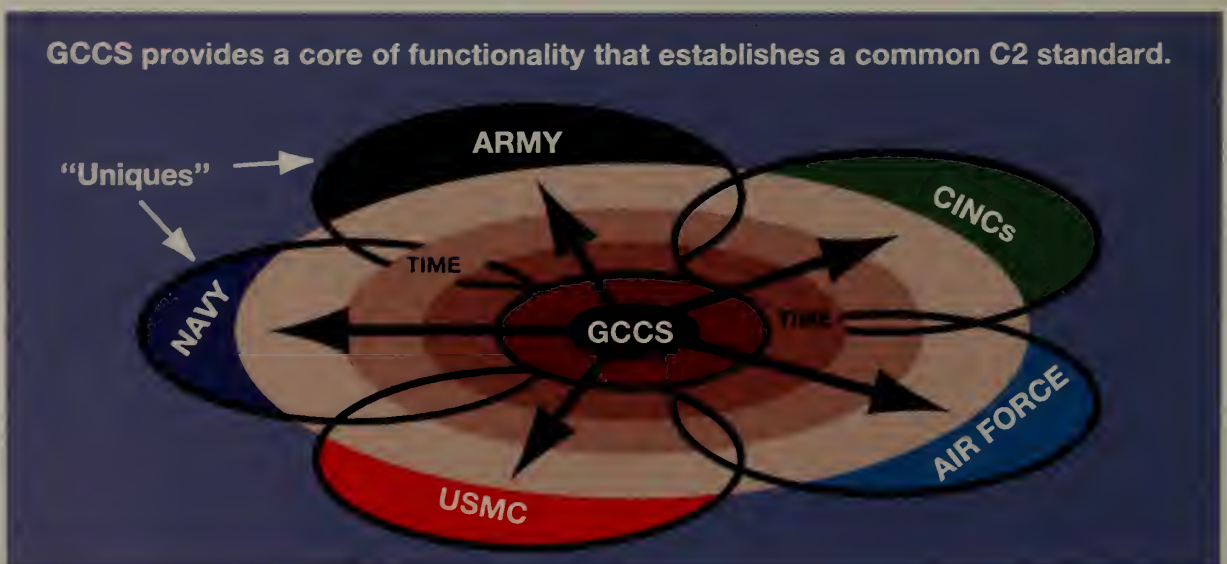


# GLOBAL COMMAND AND CONTROL SYSTEM (GCCS)

GCCS is an evolving global, flexible, and interoperable joint C4I system that is dedicated to supporting the warfighter. It encompasses the policies, procedures, personnel, automated information processing systems, common communications paths, and common switches necessary to plan, deploy, sustain, and employ forces when needed at any place, any time, and for any mission. GCCS implements a flexible, highly adaptable client server architecture, tailored specifically to the needs of the warfighter. While GCCS is seeking to replace the World Wide Military Command and Control System (WWMCCS) network, it promises more capability within the command and control arena for moving information vertically and horizontally, ultimately connecting joint and upper echelon service systems down to the battalion level. GCCS and MAGTF C4I must be compatible.

Thirteen of 26 Marine Corps candidate systems were recommended for transitioning to GCCS Common Operating Environment (COE) by the MARCORSYSCOM Technical Strategy Working Group and are listed as follows:

- **Tactical Combat Operations (TCO)**
- **Improved Direct Air Support Central (IDASC)**
- **Marine Common Application Support Software (MCASS)**
- **Intelligence Analysis System (IAS)**
- **Advanced Tactical Air Command Central (ATACC)**
- **Systems Planning Engineering Evaluation Device (SPEED)**
- **Tactical Electronic Reconnaissance Processing and Evaluation System (TERPES)**
- **Tactical Remote Sensor System (TRSS)**
- **Technical Control Analysis Center (TCAC)**
- **MAGTF Tactical Warfare Simulation (MTWS)**
- **Team Portable Communications Intelligence System (TPCS)**
- **Position Location Reporting System (PLRS)**
- **Air Defense Communications Platform (ADCP)**





# Maneuver

## Tactical Combat Operations (TCO) System

### DESCRIPTION:

The TCO system will provide MAGTF commanders with an immediate automation capability to process battlefield information. Marines will soon share the same automated operations system currently in use by the Navy and the Coast Guard. The Joint Operational Tactical System Unified Build (JOTS UB) forms the core software of the Joint Maritime Command Information System (JMCIS). The Naval Tactical Command System-Afloat (NTCS-A), the shore-based Operations Support System, and the Marine TCO system are all built around the same JMCIS UB core software with the JOTS II application. For the past ten years, JOTS has evolved to provide greater capability to commanders afloat by displaying air, ground, and maritime tracks world-wide. Digital maps available from the Defense Mapping Agency on CD-ROM disks can be loaded and displayed on JOTS UB.

### PROCUREMENT PROFILE:

	FY95	FY96	FY97
Quantity:	98	187	233

### OPERATIONAL IMPACT:

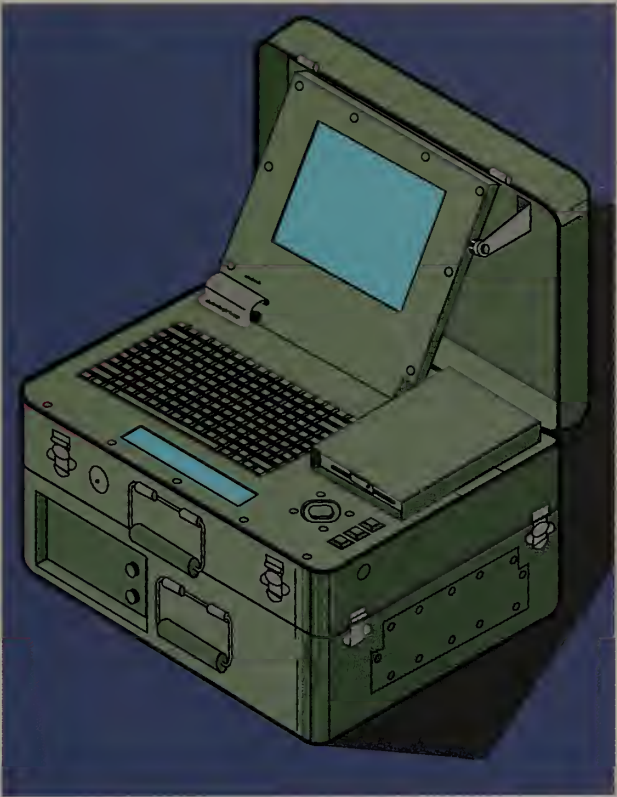
The system will link the operations sections of all FMF units of battalion/squadron size and larger. Marine forces embarked aboard Navy ships will "plug in" to the NTCS-A. When ashore, MAGTF C4I will allow for world-wide interoperability that will include internal and external communications.

### PROGRAM STATUS:

Operational testing of the Marine TCO system occurred in March, 1994. Marine Expeditionary Force (MEF) and Marine Expeditionary Unit (MEU) headquarters elements currently have an interim capability utilizing test computers. Initial Operational Capability (IOC) is required by 4th Quarter FY95, with Full Operational Capability (FOC) by the end of FY97.

### DEVELOPER/ MANUFACTURER:

Naval In-Service  
Engineering Activity (NISE), East  
Detachment, St. Inigues MD



# Tactical Data Network (TDN)

## DESCRIPTION:

The TDN consists of two major components: the TDN Gateway and the TDN Server. The TDN Gateways and Servers will allow for the capability to share files, perform electronic message handling, and provide transparent routing of digital messages between the Local Area Network (LAN), the circuit switch subnetwork, and the single channel radio subnetwork. They will also act as Banyan VINES file servers. These capabilities will allow the Marine Corps to use the current DoD protocol standards and offer compatibility with other Service's internet protocols. The TDN Gateway will be deployed at the MEF and Major Subordinate Command (MSC) level and will provide access to the Nonsecure Internet Protocol Router Network (NIPRNET), Secret Internet Protocol Router Network (SIPRNET), and other service tactical packet switched networks. It will be in a HMMWV mounted shelter for mobility. The TDN Server will be deployed to the battalion level. It will be in transit cases and will be man-portable. The TDN will give Marine Corps tactical users the ability to transition from AUTODIN to its mandated replacement system, known as the Defense Message System (DMS).

## PROCUREMENT PROFILE:

	FY95	FY96	FY97
Quantity:	0	0	8/120
(Gateways/Servers)			

## OPERATIONAL IMPACT:

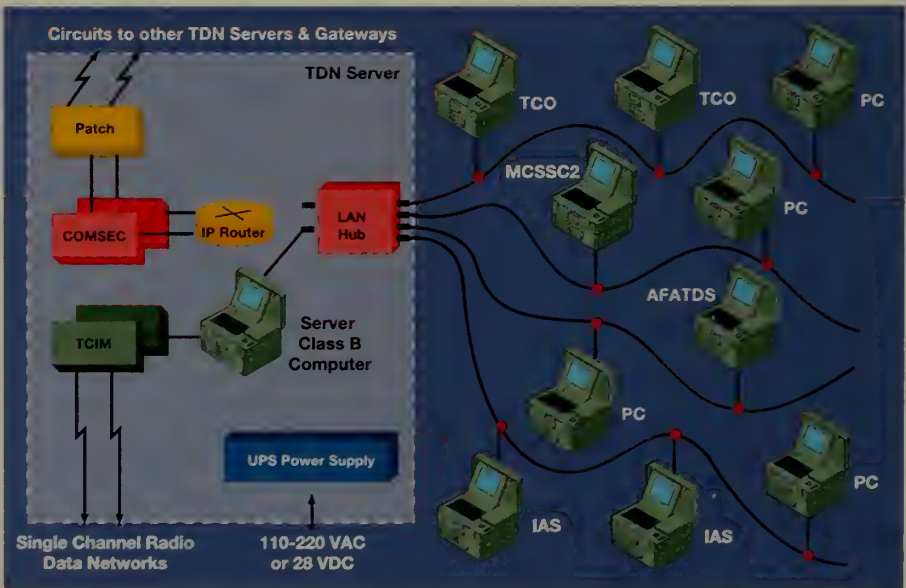
The TDN will provide the Marine Corps with a complete, integrated data network forming the communications backbone for the MAGTF tactical data systems.

## PROGRAM STATUS:

The program is currently in the Concept Exploration & Definition Phase of Research & Development. Milestone 0 was approved 11 July 1994.

## DEVELOPER/MANUFACTURER:

TBD





**AN/PSC-5 Enhanced Manpack UHF Terminal (EMUT)**

**DESCRIPTION:**

The AN/PSC-5 EMUT is a lightweight, manpack, Line-of-Sight (LOS) and Tactical Satellite Communications (SATCOM) terminal that will provide embedded Communications Security (COMSEC) and 5kHz and 25kHz Demand Assigned Multiple Access (DAMA) capabilities. The AN/PSC-5 provides long-range, two-way communications via satellite and LOS mode in the 225 to 400 MHz frequency range. The terminal will operate in the 5kHz and 25kHz UHF TDMA/DAMA modes providing both voice and message data capabilities. It employs a low-gain omni-directional antenna for LOS communications and a medium- or high-gain directional antenna for satellite communications.

**PROCUREMENT PROFILE:**

	FY95	FY96	FY97
Quantity:	67	312	36

**OPERATIONAL IMPACT:**

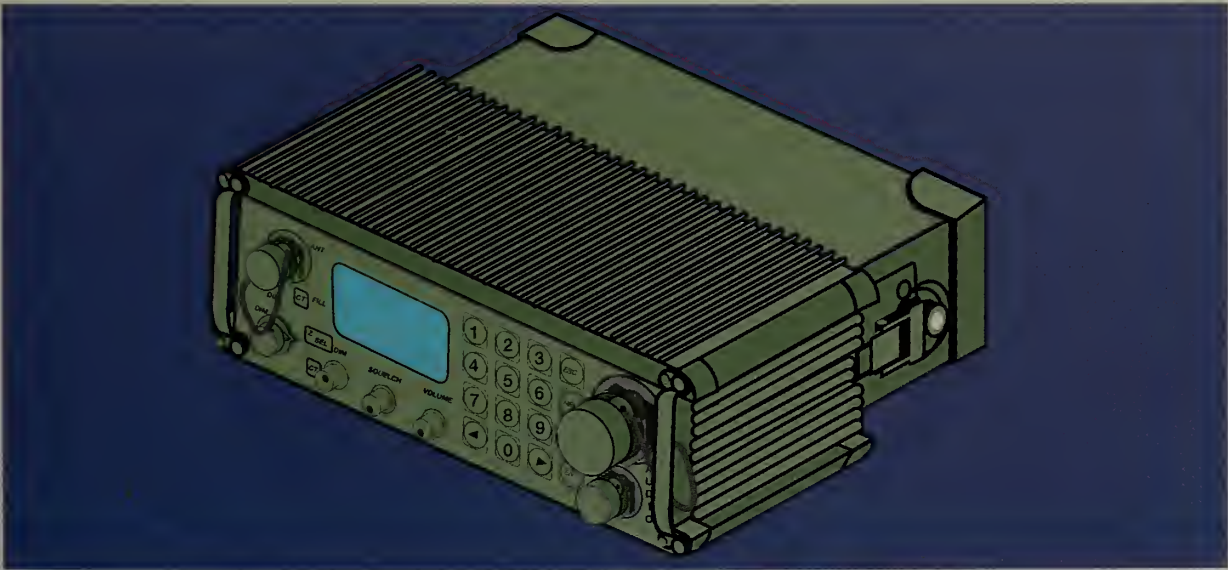
The AN/PSC-5 will serve as a primary command and control Single Channel Radio (SCR) for MAGTFs and their elements. Ultimately, they will be employed down to the battalion and reconnaissance team level, allowing increased ranges and reliability for inter/intra-MAGTF as well as theater connectivity. The terminals will be used by elements to transmit intelligence traffic, to interface with and retransmit Single Channel Ground-Airborne Radio System (SINCGARS) communications, and receive command and control traffic.

**PROGRAM STATUS:**

This is a joint program with the Army as the lead service. The Marine Corps has procured an initial quantity of 80 terminals to test Marine Corps unique operational requirements. Delivery of the initial 80 units is scheduled for August, 1995. IOC is scheduled for 3rd Quarter FY96.

**DEVELOPER/MANUFACTURER:**

Magnavox, Richardson, TX





# Digital Technical Control (DTC)

## DESCRIPTION:

The Digital Technical Control (DTC) facilitates the installation, operation, restoration, and management of individual circuits and digital links consisting of many multiplexed circuits. It provides the primary interface between subscriber systems/networks within a local area and long-haul multichannel transmission systems to transport voice, message, data, and imagery traffic. It can add, drop, and insert up to 300 digital circuits into multiplexed digital groups; provide a source of stable timing to connected equipment; condition circuits; and perform analog/digital, 2-wire/4-wire, and signalling conversions. It contains the monitoring, testing, and patching equipment required by technical controllers to troubleshoot and restore faulty circuits and links.

## PROCUREMENT PROFILE:

	FY95	FY96	FY97
Quantity:	0	0	6

## OPERATIONAL IMPACT:

The DTC will act as a central management facility terminating most communication links and individual circuits for major commands and allow the MAGTF commander to install, operate, and maintain the supporting C4I system. The DTC, along with the Unit Level Circuit Switch, Tactical Data Network, Tactical Communications Central, and various multichannel radios, will form the backbone of the Marine Corps digital communication network. The DTC will integrate the communications assets of a node into an efficient system that provides the commander seamless communications while making efficient use of limited bandwidth and equipment.

## PROGRAM STATUS:

The program is at acquisition Milestone 0, Concept Exploration and Definition.

## DEVELOPER/MANUFACTURER:

Tobyhanna Army Depot, Tobyhanna, PA



# Intelligence

## Intelligence Analysis System (IAS)

### DESCRIPTION:

IAS is the MAGTF echelon-tailored, all-source intelligence fusion center, that is the hub of the Marine Air-Ground Intelligence System (MAGIS). MEF IAS is a sheltered, mobile system with multiple analyst workstations in a client-server LAN configuration. IAS Suites for intermediate commands are configured in a four-workstation LAN. Single IAS Workstations are planned for battalions and squadrons.

### PROCUREMENT PROFILE:

	FY95	FY96	FY97
Quantity:	TBD	TBD	TBD

### OPERATIONAL IMPACT:

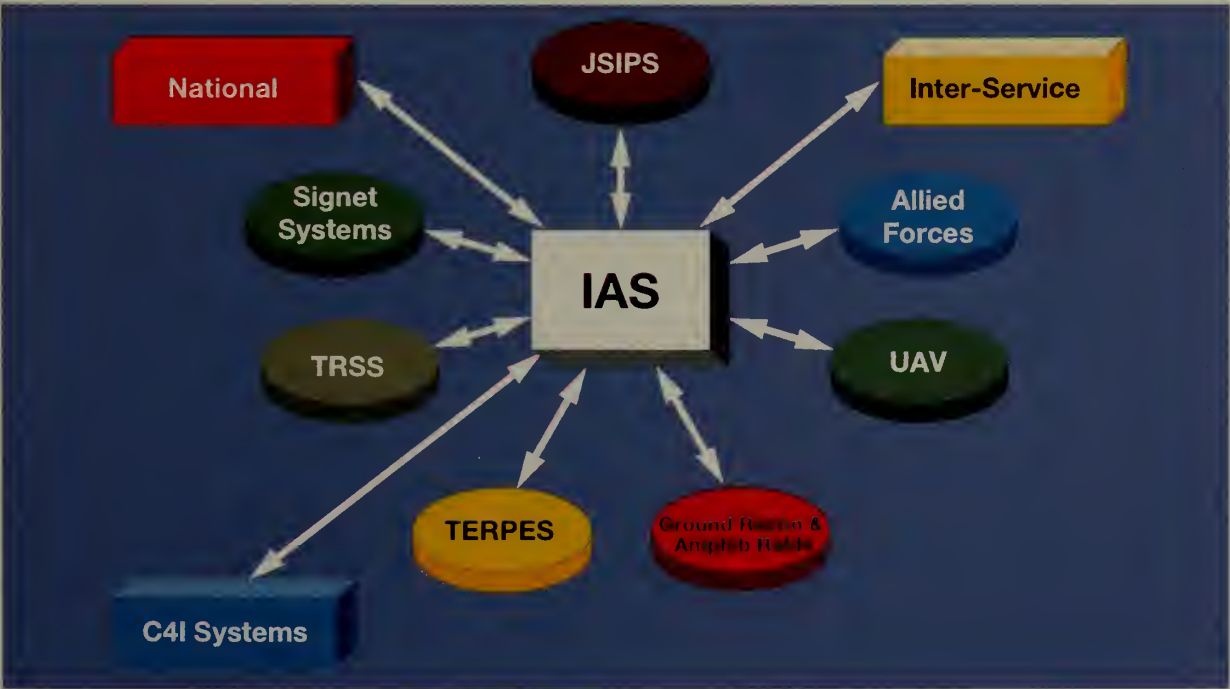
IAS hosts the Secondary Imagery Dissemination System (SIDS) and has provisions for communication links with other intelligence agencies and systems at the national (DoD Intelligence Information Systems (DoDIIS)), theater, and tactical (including TCAC, TERPES, and JSIPS) levels.

### PROGRAM STATUS:

The commercial IAS Suite IOC was completed in 1992 and the Suite FOC completed in 1993. The ruggedized IAS Suite IOC and FOC have been postponed.

### DEVELOPER/MANUFACTURER:

MEF IAS	VITRO Corporation
IAS Suite	SAIC
IAS Workstation	TBD





## MAGTF Secondary Imagery Dissemination System (SIDS)

### DESCRIPTION:

SIDS are devices that provide the capability to electronically collect, transmit, and receive imagery products throughout the MAGTF, as well as to adjacent, higher, and external commands, via available communications paths. MAGTF SIDS will fully comply with the National Imagery Transmission Format (NITF) and the Tactical Communications Protocol (TACO II).

### PROCUREMENT PROFILE:

	FY95	FY96	FY97
Quantity:	40	0	185
(Manpack SIDS)			

### OPERATIONAL IMPACT:

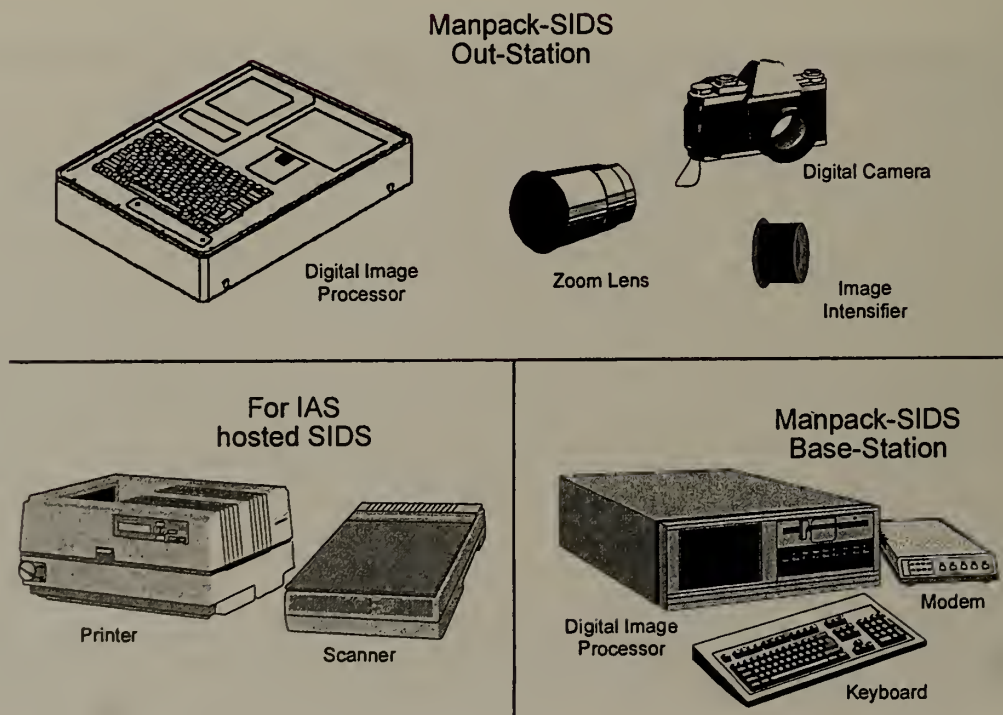
MAGTF SIDS will be procured in two configurations: IAS hosted SIDS and Manpack SIDS. They are distributed throughout the MAGTF and comprise the foundation of the SIDS network. They allow the user to display, manipulate, annotate, print, transmit, and receive images on a multipurpose intelligence workstation.

### PROGRAM STATUS:

IAS hosted SIDS is presently operating on the commercial IAS Suites with seven MEUs. Selection of the additional image-quality printers for IAS hosted SIDS is complete. Selection of the image-quality scanners is expected to be completed 3rd Quarter FY95. MEF IAS is scheduled for IOC during September, 1996 with FOC in December, 1997. Manpack SIDS production decisions and IOC are scheduled for FY96. Manpack SIDS FOC is scheduled for FY98.

### DEVELOPER/MANUFACTURER:

Paragon, Inc. (IAS hosted software); other vendors TBD





**Joint Tactical Information Distribution System (JTIDS)**

**DESCRIPTION:**

JTIDS, a joint program managed by the JTIDS Joint Program Office (JPO), is an advanced radio system that provides secure, jam resistant information distribution, position location, and identification capabilities in an integrated form for tactical military operations. It is a time division multiple access (TDMA), spread spectrum, frequency hopping, digital (data and voice), crypto secure, high data rate communication system.

**PROCUREMENT PROFILES:**

	FY95	FY96	FY97
Quantity: (JM Program)	0	2	0
(JTIDS Terminal)	7	2	5

**OPERATIONAL IMPACT:**

The Marine Air Command and Control System (MACCS) requires a JTIDS capability for interoperability and to perform its mission in a joint environment. This capability will be provided to the host system via use of a JTIDS Module (JM), which houses the JTIDS Terminal. The SJS will provide an interim capability until fielding of a fully JTIDS-capable host.

**PROGRAM STATUS:**

The Marine Corps procured five full-scale development (FSD) model Class 2H terminals for TAOM/ATACC platform integration and field testing under LRIP authority (MS IIIA) of 7 September 1989. The JM is in the Engineering and Manufacturing Development (EMD) phase of the acquisition cycle. Four EMD JTIDS units are being built.

**DEVELOPER/MANUFACTURER:**

**Principal Development Activity:** Naval Command, Control and Ocean Surveillance Center (NCCOSC) In-Service Engineering (NISE), West Coast Division. **JM Construction:** Sacramento Air Logistics Center (SM-ALC), McClellan Air Force Base, Sacramento, CA. **Multiplexer TD-1459/U Development:** Eldyne, Inc., San Diego, CA. **JTIDS Terminal:** JTIDS JPO: Electronic Systems Center (ESC), Hanscom AFB, MA. **JTIDS Terminal Development:** GEC-Marconi Electronic Systems Corp., Totowa, NJ



**Trojan Special Purpose Integrated Remote Intelligence Terminal (SPIRIT) II**

**DESCRIPTION:**

TROJAN SPIRIT II is a mobile, stand alone SHF (C, Ku, and X) satellite communication processing system capable of providing secondary imagery products and secure, dial-up voice, data and facsimile communications to a worldwide internetwork of subscribers. These capabilities provide the necessary, dedicated communications for coordinating intelligence operations and analysis. TROJAN SPIRIT II provides 14 channels of digital voice or data (SI/TK or GENSER) with a maximum aggregate data rate of 512 kbps, two ethernet local area networks (SI/TK and GENSER), and access to DSNET 1, DSNET 3, NSA Platform, and DSSCS.

**PROCUREMENT PROFILE:**

	FY95	FY96	FY97
Quantity:	6	0	0

**OPERATIONAL IMPACT:**

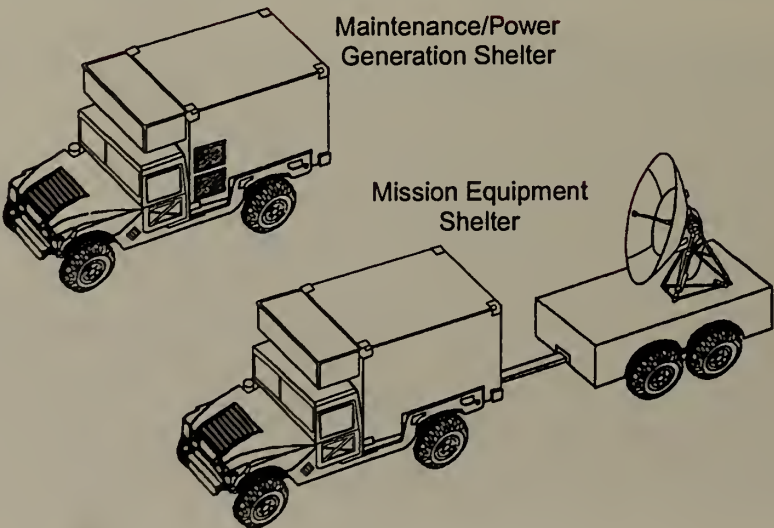
TROJAN SPIRIT II will provide communication capabilities for intelligence information products to MAGTF Command Elements, such as MEF HQs, MSCs, such as Division/Wing HQs and other elements of a MAGTF such as MEUs.

**PROGRAM STATUS:**

The program is a joint program with the U.S. Army as the lead Service. It is based on an acquisition strategy which emphasizes the use of commercial-off-the-shelf (COTS) technology and non-developmental items (NDI) in the development of the system. The program is currently in the Concept Exploration and Definition phase of Research and Development. The Marine Corps has procured two systems to evaluate whether TROJAN SPIRIT II meets its requirements. Upon successful completion of an evaluation for suitability, interoperability, and operational effectiveness, a decision will be made whether to procure additional TROJAN SPIRIT IIs.

**DEVELOPER/MANUFACTURER:**

Electro Space Inc., Richardson, TX





# Technical Control and Analysis Center (TCAC) Product Improvement Program (PIP)

## DESCRIPTION:

TCAC PIP will provide the MARFOR Radio Battalions with a true Signals Intelligence (SIGINT) fusion center mounted on the HMMWV platform. By providing automated processing, analysis, and reporting capability, TCAC PIP will enhance the overall control and management of SIGINT assets as well as the development and dissemination of SIGINT products. To provide the MARFOR Radio Battalions with the most capable, mobile, and rugged system possible, TCAC PIP capitalizes on state-of-the-art hardware and software technology and an evolutionary development strategy.

## PROCUREMENT PROFILE:

	FY95	FY96	FY97
Quantity:	TBD	TBD	TBD

## OPERATIONAL IMPACT:

Compared to the current TCAC system, TCAC PIP will greatly increase the quality and timeliness of SIGINT products provided to MAGTF commanders, while decreasing the amphibious/airlift requirements for system deployment.

## PROGRAM STATUS:

Prototype development began in FY91. Fielding of several prototype systems occurred in FY92 and FY93. Software development continues. Operational Test and Evaluation (OT&E) is scheduled for FY96 with IOC to follow in FY98.

## DEVELOPER/MANUFACTURER:

VITRO; BTG, Inc.





# Air Operations

The Marine Air Command and Control System (MACCS) provides the tactical air commander with automated support to exercise control over MAGTF air operations. MACCS equipment includes the Advanced Tactical Air Command Central (ATACC), the Tactical Air Operation Module (TAOM), and the Improved Direct Air Support Central (IDASC).

## Advanced Tactical Air Command Central (ATACC)

### DESCRIPTION:

The ATACC is the interface system between the Air Combat Element (ACE) and the MAGTF Command Element (CE) and other joint service systems, and will provide the integrating link between the MACCS and MAGTF C4I. It will replace the current AN/TYA-1B and AN/TYQ-3A, and will provide significant operational and logistical improvements. The ATACC program is now following an evolutionary acquisition strategy composed of three phases. Phase I ORD requirements will be satisfied through the procurement of: 1) the AN/TYQ-51, 2) CTAPS, and 3) non-rigid enclosures. The three elements of Phase I will be integrated with portions of the AN/TYA-1B to provide full Phase I capability. The capabilities required in Phase II will be satisfied in two increments: 1) enhanced voice communications, and 2) common hardware, open systems, and Joint Tactical Information Distribution System (JTIDS) integration. The capabilities required in Phase III will be the subject of future requirements endeavors, and will take advantage of new, evolving technology. Throughout its evolution, the ATACC will provide planners and operators with the computer assistance needed to effectively supervise and coordinate all Marine Corps aviation assets.

### PROCUREMENT PROFILE:

	FY95	FY96	FY97
Quantity:	0	0	0

### OPERATIONAL IMPACT:

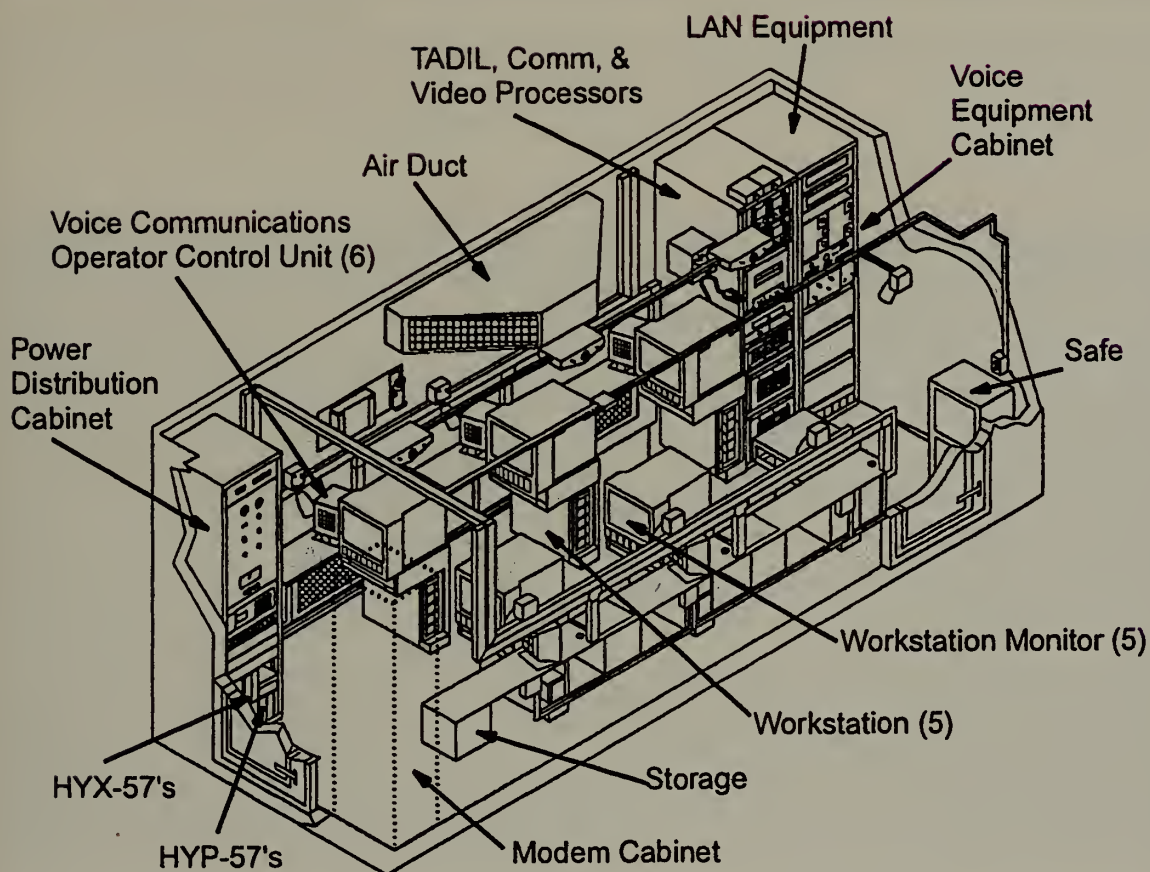
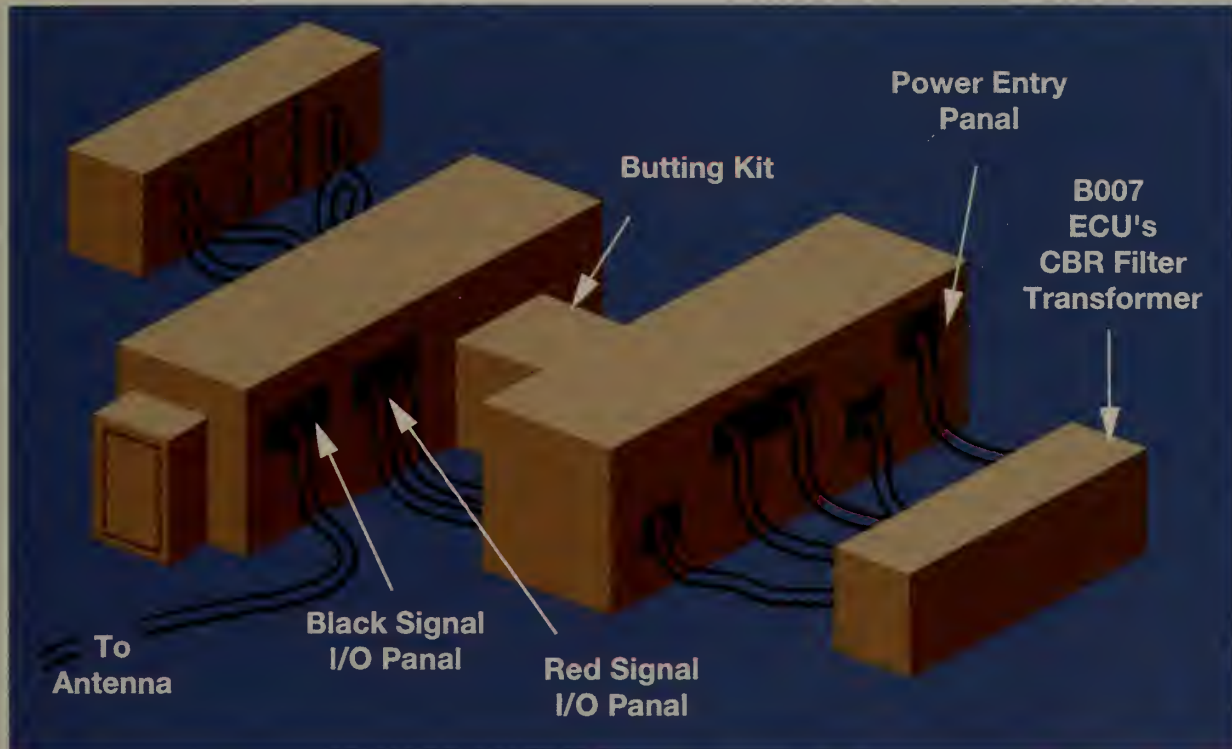
ATACC provides automated data exchange of tactical information through a shared database. Air Tasking Orders (ATO) are generated, validated, formatted, and then routed for transmission. ATO generation and receipt will incorporate a version of the Contingency Theater Automated Planning System (CTAPS). ATACC is the senior Marine Corps agency within the Marine Air Command and Control System, and as such it is the focal point for the planning and execution of the Air War. It is designed to interface with all joint data systems.

### PROGRAM STATUS:

ATACC is utilizing a phased, evolutionary acquisition strategy to complete a series of Milestone III production decisions. The Phase I Milestone III occurred in March, 1994, which will result in a Phase I IOC during 4th Quarter FY96. FOC will occur at the completion of Phase II, during 4th Quarter FY00.

### DEVELOPER/MANUFACTURER:

Grumman Data Systems





## ***Improved Direct Air Support Central Product Improvement Program (IDASC PIP)***

### **DESCRIPTION:**

The focus of the IDASC PIP is the development of the High Mobility Downsized (HMD) DASC, which may replace the AN/TSQ-155 IDASC and OE-334/TRC Antenna Coupler Group presently fielded in the Marine Air Support Squadrons. The HMD DASC is an integrated system which consists of five shelterized Lightweight Multipurpose Shelter (LMS) Type-1 systems mounted on M-1097 Heavy HMMWVs. Three of these shelters comprise the operations suite (replacing the AN/TSQ-155) and two comprise the communications suite (replacing the OE-334). Each operations shelter contains five operator workstations capable of conducting integrated aviation command and control functions. Each HMD DASC vehicle tows an M-116 trailer which carries a generator and external cables. Those trailers associated with the operations vehicles will also carry one Quick Erect Shelter. The system design allows for a great deal of configuration and employment flexibility at any level of MAGTF operations, and provides the FMF with a lightweight, highly mobile, shelterized system capable of delivering flexible and responsive air support command and control.

### **PROCUREMENT PROFILE:**

	<b>FY95</b>	<b>FY96</b>	<b>FY97</b>
Quantity:	0	6	2

### **PROGRAM STATUS:**

The program is being implemented via an evolutionary acquisition strategy that consists of three phases—Phase I (IOC): Downsizing, Electromechanical Upgrades, and Automation Core; Phase II (FOC): Block upgrades; Phase III: Outyear Improvements. IOC is currently slated for 4th Quarter FY96, and FOC during 4th Quarter FY97.

### **DEVELOPER/MANUFACTURER:**

Naval Surface Warfare Center, Crane, IN;  
NISE West. San Diego, CA





# Fire Support

## Fire Support Command and Control System (FSC2S)

### DESCRIPTION:

FSC2S is an interim program designed to meet the basic requirements for a fully automated system by providing initial semi-automated tactical fire support and technical artillery fire control functions for MAGTF operations. The follow-on Advanced Field Artillery Tactical Data System (AFATDS) due for fielding in FY97 will complete the transition to fully automated fire support command and control. There are two components to the FSC2S: The Fire Control System (FCS) and the Battlefield Computer Terminal (BCT).

### PROCUREMENT PROFILE:

	FY95	FY96	FY97
Quantity:	137	188	186

### OPERATIONAL IMPACT:

FSC2S will be employed at Fire Direction Centers down through the firing platoon/battery level, at Fire Support Coordination Centers down through the battalion level, at the Supporting Arms Coordination Center, and by the MAGTF command element to provide enhanced fire planning, tactical fire direction, and management of associated digital communications nets.

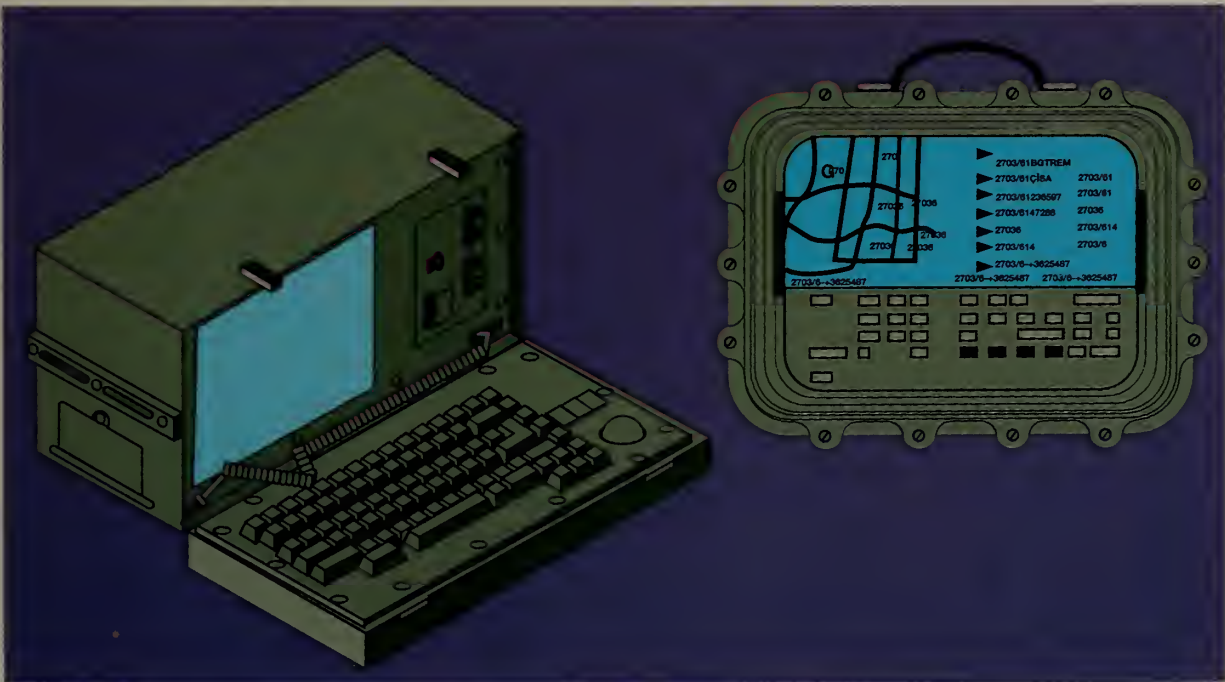
### PROGRAM STATUS:

FSC2S obtained a Milestone III decision in January, 1994 and began fielding in October, 1994.

### DEVELOPER/MANUFACTURER:

Litton Data Systems (software)

SAIC (hardware)



# Communications and Communications Support

## Single Channel Ground and Airborne Radio System (SINCGARS)

### DESCRIPTION:

SINCGARS is a family of lightweight combat radios. As a joint program, SINCGARS will be the standard VHF-FM tactical radio for the Marine Corps, providing the backbone for the single channel radio net which will be used by all C2 and fire support systems. The system will provide high security against surveillance and jamming by using frequency hopping with integrated communications security. It is capable of voice and data transmission over the VHF-FM frequency range of 30-87.975 MHz.

### PROCUREMENT PROFILE:

	FY95	FY96	FY97
Quantity:	5388	3430	2438

### OPERATIONAL IMPACT:

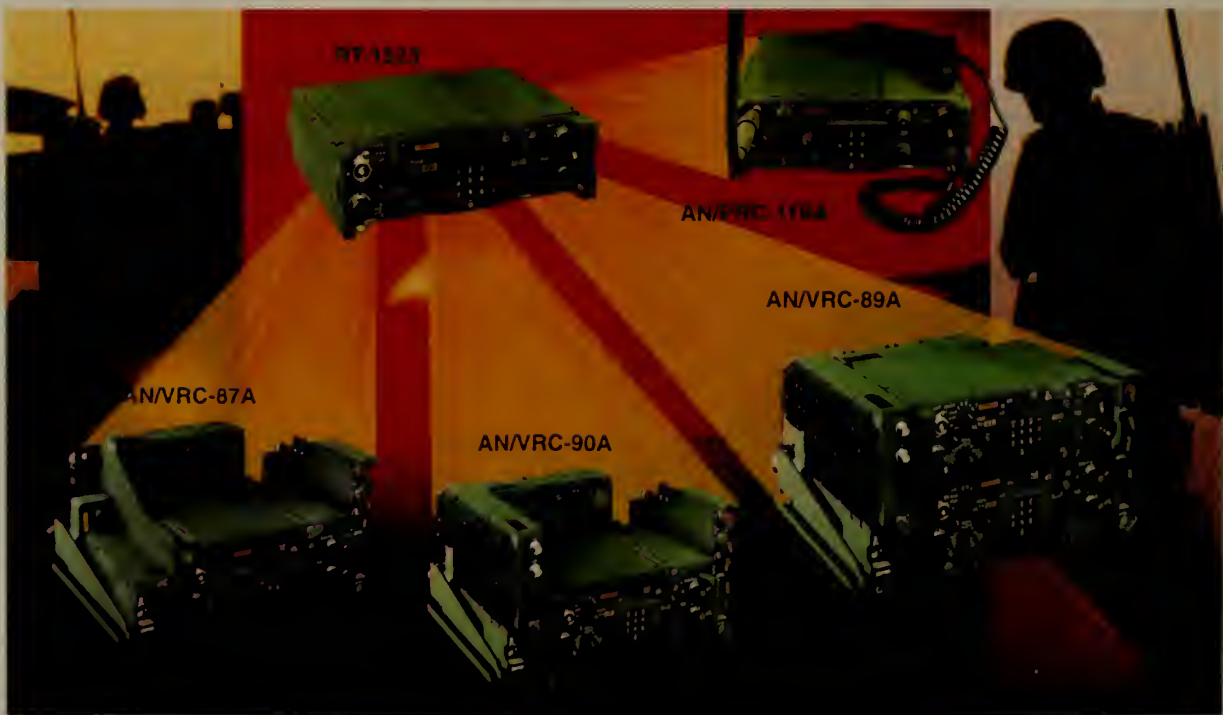
SINCGARS will provide the MAGTF commander with the primary means of communications to support command and control on the battlefield.

### PROGRAM STATUS:

IOC occurred during 4th Quarter FY94.

### DEVELOPER/MANUFACTURER:

ITT Aerospace/Communications Division





## ***Air Defense Communications Platform (ADCP)***

### **DESCRIPTION:**

The ADCP will be capable of receiving, transmitting, processing, and distributing data link and voice information to MAGTF ground-based air defense units.

### **PROCUREMENT PROFILE:**

	<b>FY95</b>	<b>FY96</b>	<b>FY97</b>
Quantity:	0	0	1

### **OPERATIONAL IMPACT:**

The fielding of the ADCP will enhance the MAGTF commander's ability to effectively deploy air defense assets. The single configuration HMMWV-based system will be capable of meeting the requirements for receiving and broadcasting air picture data for Shorad cuing while providing HAWK units with a capability for Tactical Ballistic Missile Defense (TBMD).

### **PROGRAM STATUS:**

Milestone I/II was completed during 2nd Quarter FY95. IOC is scheduled for 4th Quarter FY98.

### **DEVELOPER/MANUFACTURER:**

Advanced Programming Concepts (Software)

Naval Surface Warfare Center, Crane, IN (Hardware and integration)





## ***Joint Warrior Interoperability Demonstrations (JWID)***

The JWID series of demonstrations are exercise events sponsored by the Chairman of the Joint Chiefs of Staff (CJCS), Operations and Communications Sections (J-3/J-6), to support the C4I for the Warrior initiative. These are technology, networking, and interoperability showcases set within the framework of a Joint Task Force (JTF) deployment which complement the testing conducted at the Systems Integration Environment (SIE) and feedback from FMF exercises. Of prime importance in these demonstrations is assessment of new systems for their value to the warfighter, and development of the command and control support for a Commander of a JTF. The military Services and DoD agencies participate from sites within the JWID network architecture. The sites represent deployed JTF forces and Commanders-in-Chief (CINC) of area and supporting major commands. The JWID network architecture is an orchestrated system of both strategic and tactical internetworks. This network architecture provides existing and prototype capabilities for improvement of future JTF deployments.

JWID-95 is scheduled for the 4th Quarter FY95. The Marine Corps has been assigned as the lead service, with the Pacific Command (USCINCPAC) assigned as the executing CINC. Potential GCCS-based Marine Corps demonstrations for JWID-95 include the following tasks:

- Emphasize the significance of consistent configuration management by establishing a configuration management baseline within the Marine Corps associated with each of the various GCCS based systems being fielded to the operating forces.
- Demonstrate the current status of the actual re-engineering of Marine Corps legacy systems to the GCCS Common Operating Environment (COE).
- Demonstrate the importance of a software transportability design criteria: the ability to execute Marine Corps application segments across all GCCS COE compliant hardware platforms.
- Formulate and demonstrate elements of a preliminary MAGTF GCCS/MAGTF C4I baseline concept of employment; emphasizing battlespace management.
- Demonstrate the role-based systems management approach toward application segments inherent in the current Marine Corps migration strategy.
- Demonstrate the integration of large screen display technologies to augment knowledge based presentation techniques.

## PART 2

### GROUND COMBAT ELEMENT PROGRAMS

The Ground Combat Element (GCE) is task organized around an infantry unit and varies in size from a reinforced battalion to one or more reinforced divisions. Its purpose is to defeat an enemy by the application of superior combat power at the decisive time and place. This is accomplished by rapid, uninterrupted maneuver from amphibious ships ashore to gain positional advantage; and by the precise, overwhelming application of firepower. The following programs will enable GCE forces to execute **Operational Maneuver from the Sea** by greatly increasing their mobility, survivability, and accurate application of fires.





*Advanced Amphibious Assault Vehicle (AAAV) PROGRAM*

**DESCRIPTION:**

The goal of the AAAV program is to provide the Marine Corps with a system that will enable full implementation of the **Operational Maneuver from the Sea** concept. Battlespace dominance by Marine ground forces will be significantly improved as a result of the AAAV's superior mobility over terrain that historically has limited the rapid maneuver of armored vehicles. The AAAV's unique combination of offensive firepower, armor protection, and high-speed mobility on land and at sea represent major breakthroughs in the ability of naval expeditionary forces to avoid enemy strengths and exploit enemy weaknesses.

**PROCUREMENT PROFILE:**

	FY95	FY96	FY97
Quantity:	0	0	0

**OPERATIONAL IMPACT:**

The AAAV will be designed to allow immediate, high-speed maneuver of Marine infantry units as they emerge from attack positions aboard ships located beyond the visual horizon. Projection of these forces will be conducted as a single, seamless stroke that capitalizes on the intervening sea and land terrain to achieve surprise and rapidly exploit weak points in enemy littoral defenses.

**PROGRAM STATUS:**

The AAAV program is nearing completion of the Concept Exploration/Definition Phase in Research and Development. The Milestone I Defense Acquisition Board (DAB) review is planned during the 2nd and 3rd Quarter FY95, and the start of development is scheduled during the 2nd Quarter FY96.

**DEVELOPER/MANUFACTURER:**

Current Phase—FMC Corporation and  
General Dynamics Land Systems Division





# Light Armored Vehicle (LAV) Mobility Improvements

## DESCRIPTION:

LAV Mobility Improvements have been/are being developed to upgrade the current LAV family of vehicles. The LAV family of wheeled, armored vehicles provide significant improvement in firepower and tactical mobility for the combat units. The LAV fleet is at the midpoint of its expected 20 year life and these Mobility Improvements represent the first major upgrade to the fleet.

LAV Mobility Improvements consist of two major upgrades: the Silver Series Engine and XML Tires/Wheel Assemblies, as well as several less costly, but much needed, improvements. The remaining improvements contained in the Mobility Block are a new Brake System, new Engine Grill Cover, Laser Shielded M17 Periscopes, new Shock Absorber Pin, new Steering Roller Bearing, Towing Pintle Mount, and Wheel Alignment Equipment.

## PROCUREMENT PROFILE:

	FY95	FY96	FY97
	0	\$11.4M*	\$14.8M*

\*Upgrade all vehicles to current configuration.

## OPERATIONAL IMPACT:

While these Mobility Improvements are expected to increase the reliability, availability, maintainability, and survivability of the LAV fleet, they are largely justified by cost savings. In addition, these improvements will upgrade Marine Corps LAVs to the same configuration as the LAVs currently being procured by the Saudi Arabian National Guard (SANG), thereby reducing continuing support costs.

## PROGRAM STATUS:

Development of the two major upgrades contained in the LAV Mobility Improvements have been completed through the current configuration of the SANG vehicles. Minor development to incorporate all improvements into Marine Corps vehicles is still required and currently in progress. In addition, an ACAT designation has been requested through the Marine Corps Systems Command.

## DEVELOPER/MANUFACTURER:

The two major components will be manufactured by Detroit Diesel (Silver Series Engine) and Titan Wheel, Hutchinson and Michelin Tire (XML Tires/Wheel Assemblies). Other manufacturers of items included in the LAV Mobility Improvements are Diesel Division, GM; and Universal Vision.

# Firepower

## Lightweight 155MM Howitzer (LW155)

### DESCRIPTION:

The LW155 howitzer will provide MAGTFs with organic indirect artillery fire support. The LW155 will retain the current M198 155mm howitzer's 30-kilometer range and lethality while providing considerably improved transportability by both air and ground systems. Capable of being transported by the future medium lift replacement aircraft, the LW155 will also eliminate reliance on World War II vintage 105mm howitzers currently maintained for expeditionary contingencies requiring light, highly mobile artillery.

### PROCUREMENT PROFILE:

	FY95	FY96	FY97
Quantity:	0	0	0

### OPERATIONAL

IMPACT: The LW155 will give the MAGTF commander greater operational and tactical flexibility in executing his mission. The increased mobility of the LW155 will significantly improve artillery ship-to-shore movement while increasing the survivability, responsiveness, and efficiency of artillery units supporting the ground operation.

### PROGRAM STATUS:

The LW155 is currently in the Concept Exploration and Definition Phase in Research and Development. Live fire testing of both prototypes will continue through 1995, and the program will enter the EMD phase during the 1st Quarter FY 96. The LW155 is a joint program, with the Marine Corps as lead Service.

### DEVELOPER/MANUFACTURER:

The Marine Corps Systems Command is the lead developer of the LW155 and will manage the overall effort; however, this joint program will fully involve the U.S. Army's extensive artillery infrastructure at ARDEC.



# Javelin

## DESCRIPTION:

The JAVELIN, formerly the AAWS-M, is a medium-range, man-portable, "fire-and-forget" weapon system that will replace the TOW antiarmor missile system. JAVELIN will satisfy an operational requirement to provide increased mobility, reliability, higher hit/kill probability, and greater effective range (2,000m+) against current and future armored threats. JAVELIN uses an infrared, fire-and-forget seeker, coupled with an advanced warhead and top down attack missile trajectory to provide its lethality. It can be fired from inside buildings and enclosures, which makes it an effective system for employment in urban terrain, as well as in more open areas.

## PROCUREMENT PROFILE:

	FY95	FY96	FY97
Quantity:			
Command Launch Unit	0	0	32
Missiles	0	0	119

## OPERATIONAL IMPACT:

The Marine Corps has a continuing urgent requirement for a man-portable, antiarmor weapon system capable of engaging and defeating the enemy armor threat. JAVELIN will replace the TOW heavy antitank weapon system, which is ineffective against the improved conventional and explosive reactive armor on existing threat vehicles. The TOW, while capable, is not man-portable.

## PROGRAM STATUS:

The U.S. Army and the Marine Corps are jointly participating in the development of the JAVELIN, with the Army as lead service. Marine IOC is anticipated during FY99.

## DEVELOPER/MANUFACTURER:

Texas Instruments and Martin Marietta





# Short Range Assault Weapon (SRAW)

## DESCRIPTION:

SRAW is a short-range assault missile with a fly-over, shoot-down attack profile, similar to that of the TOW-IIIB. The warhead uses an explosively formed penetrator and is lethal against all current main battle tanks equipped with explosive reactive armor. A fire-and-forget, 19-pound system with a disposable launcher, SRAW is effective between 17 and 600 meters and has an inertially guided autopilot to increase accuracy. The flight module increases gunner survivability with its soft launch capability, which also allows the weapon to be fired from an enclosed space.

## PROCUREMENT PROFILE:

	FY95	FY96	FY97
Quantity:	0	0	0

## OPERATIONAL IMPACT:

SRAW will replace the AT-4, and will be issued as a round of ammunition. It is capable of being fired by any Marine using basic marksmanship techniques. The inertial autopilot determines range and lead, so the gunner merely keeps the crosshairs on the turret ring of a moving tank. SRAW fills a significant deficiency in the heavy, medium, and light antiarmor concept, given its ability to destroy tanks as a lightweight system. This will allow infantry, as well as support units, to possess an antitank capability, because those units rarely enjoy armor parity.

## PROGRAM STATUS:

SRAW is a joint program. The U.S. Army has an interest in using the flight module for a multipurpose warhead. The current program in Research and Development has successfully completed Demonstration/Validation phase and is awaiting a Milestone II Decision to enter the EMD phase. Procurement is scheduled to begin during FY99, with the first delivery to operational units during FY00.

## DEVELOPER/MANUFACTURER:

Loral Aeronutronic



## **Magnetic Countermine System (MACS)**

### **DESCRIPTION:**

The Magnetic Countermine System (MACS) is designed to neutralize magnetically influenced mines by causing detonation at a safe, stand-off distance from the host vehicle. The system consists of a signal controller and an armored flexible wire coil. MACS is configured to interface with the Main Battle Tank (MBT), Amphibious Assault Vehicle (AAV), and the Light Armored Vehicle (LAV) as a rapidly installed, temporary kit.

A MAGTF conducting assault operations will face a threat ranging from light infantry to heavily armored forces. These forces will use mines and other obstacles to canalize and disrupt the assault. In an assault breach, MACS will be employed in conjunction with other countermine equipment (plows/rollers/explosives), to protect that low density equipment from magnetically fuzed mines. MACS will also be used without ancillary countermine equipment to protect its host vehicle from rapidly emplaced, remotely delivered, scatterable mines.

### **PROCUREMENT PROFILE:**

	<b>FY95</b>	<b>FY96</b>	<b>FY97</b>
Quantity:	0	0	811

### **OPERATIONAL IMPACT:**

The tactical employment of mines in the conduct of ground warfare is increasing. Maneuver on future battlefields will become less fluid as a result of rapidly emplaced, magnetically influenced, scatterable mines. Minefields can be projected across the entire battlefield, and even deep within our rear areas, utilizing scatterable mines. MACS offers a solution against this increasing threat while, at the same time, allowing the host vehicle an unconstrained ability to carry out its primary mission.

### **PROGRAM STATUS:**

MACS is a unilateral Marine Corps program currently in the EMD phase. This program will transition to the Production-Deployment Phase in 1st Quarter FY96.

### **DEVELOPER/MANUFACTURER:**

The controller and interface hardware are an NDI design based on technology developed under a joint Army/Marine Corps program. Alliant Techsystems Inc., of Minneapolis, MN was the primary developer. The armored flexible coil is being developed by the Night Vision Electronics Sensors Directorate, Ft. Belvoir, VA



## ***Antipersonnel Obstacle Breaching System (APOBS)***

### **DESCRIPTION:**

APOBS is a portable, two-man system employed in combat to breach lanes through wire and antipersonnel mines. Weighing 120 pounds, APOBS can be employed in 30 to 60 seconds to breach a 1 meter by 45 meter path, while providing a 25 meter safe standoff distance for the breaching team. APOBS will replace the M1A2 Bangalore Torpedo Demolition Kit.

A two-man team encounters a minefield/wire obstacle, places the system in the firing position, and activates the rocket motor. The rocket accelerates rapidly pulling the fuse and line charge behind it. Normal deployment will place the last grenade of the line charge approximately 25 meters forward of the firing position. The fuse is activated by the force exerted by the rocket motor. A delay detonator inside the fuse allows the line charge to be deployed over the obstacle before detonation.

### **PROCUREMENT PROFILE:**

	<b>FY95</b>	<b>FY96</b>	<b>FY97</b>
Quantity:	0	0	582

### **OPERATIONAL IMPACT:**

APOBS will significantly improve the standoff breaching capability of infantry and combat engineer elements against antipersonnel mines and wire obstacles. One APOBS creates a breach lane equivalent to three bangalore torpedo demolition kits weighing 594 pounds, taking in excess of one hour to deploy, and requiring four men. APOBS takes two men 30 to 60 seconds and provides a 25 meter standoff.

### **PROGRAM STATUS:**

APOBS is currently in the EMD phase. Transition to the Production and Deployment Phase is anticipated to take place during FY96. The APOBS Final Flight Testing began in September, 1994.

### **DEVELOPER/MANUFACTURER:**

Naval Surface Warfare Center; Coastal Systems Station, Crane Division, Indian Head Division, and White Oak Detachment.





## PART 3

# AVIATION COMBAT PROGRAMS

The Aviation Combat Element (ACE) provides the commander with enormous flexibility, mobility, and firepower. The ACE's primary goal is to provide day/night air support to the MAGTF Ground Combat Element (GCE). This is accomplished through responsive offensive air support and assault support. Offensive air support isolates the battlefield and provides timely and accurate close air support to maneuvering forces. Assault support ensures the rapid build-up of combat power ashore, and provides a means to quickly maneuver ground forces on the battlefield. The following aviation systems enhance and complement the Corps expeditionary nature and execution of **Operational Maneuver from the Sea**.



# Assault Support

## V-22 OSPREY

**DESCRIPTION:**

The V-22 Osprey is a tiltrotor, vertical/short takeoff and landing (V/STOL) aircraft designed to replace the aging CH-46E and CH-53D aircraft presently operating in support of the Navy and Marine Corps. Specific missions include amphibious assault, land assault, raid operations, medium cargo lift, combat search and rescue, fleet logistics support, and special warfare. The V-22 design incorporates advanced but mature technologies in composite materials, fly-by-wire flight controls, digital cockpits, survivability, airfoil design, and manufacturing to fulfill its multi-service combat and operational requirements. The Osprey is capable of carrying 24 combat-equipped Marines or a 10,000-pound external load, and deploying 2,100 nautical miles with a single aerial refueling. The V-22's thirty-eight foot rotor system and engine/transmission nacelle mounted on each wing tip allow it to operate as a helicopter for takeoff and landing. Once airborne, the nacelles rotate forward 90 degrees, converting the V-22 into a high-speed, high-altitude, fuel-efficient turboprop airplane. The V-22 is a multi-mission aircraft originally designed for use by all Services. Currently the USMC and USAF have committed to fielding this unique aircraft.

**PROCUREMENT PROFILE:**

	FY95	FY96	FY97
Quantity:	0	0	4

**OPERATIONAL IMPACT:**

The V-22 will be the cornerstone of the Corp's assault support force in the 21st century. It will provide the MAGTF with an assault support aircraft possessing the speed, endurance, and survivability needed to fight and win on tomorrow's battlefield. This medium lift alternative (MLA) represents a quantum improvement in strategic mobility and tactical flexibility for amphibious and maritime prepositioned forces. V-22 procurement remains the number one Marine Corps acquisition priority.

**PROGRAM STATUS:**

The program is currently in the EMD phase. Significant test accomplishments include successful completion of Operational Assessment IIA conducted by COMOPTEVFOR; icing trials behind KC-135 and H-47 HISS aircraft; hot/high hover performance trials; and the accrual of nearly 1000 total flight hours on the Full Scale Development (FSD) aircraft. Total buy is 523 for the USMC, USN, and USSOCOM.

**DEVELOPER/MANUFACTURER:**

Bell-Helicopter Textron, Fort Worth, TX;Defense and Space Group, Helicopter Division, Philadelphia, PA



# Offensive Air Support

## AV-8B Harrier Remanufacture (REMAN)

**DESCRIPTION:**

The AV-8B is a single-seat, transonic, vectored-thrust, light attack aircraft capable of increased payloads, range, endurance, and improved reliability and maintainability over the AV-8A. The Vertical/Short Take Off and Landing (V/STOL) design gives it the capability to operate from a variety of land- and sea-based areas. The AV-8B will remain in service until introduction of a replacement aircraft near 2010. Current production AV-8Bs are built to the radar night attack standard, which incorporates an improved engine, night warfighting capabilities, and the APG-65 multi-mode radar. The Marine Corps is pursuing a remanufacture program in which 72 of its older "day attack" aircraft are rebuilt to the current radar/night attack standard at only 77 percent of the cost of a new aircraft.

**DELIVERY PROFILE:**

	FY95	FY96	FY97
Quantity:	4	4	12

**OPERATIONAL IMPACT:**

The MAGTF has limited organic artillery and tanks, and relies heavily on its complementary aviation assets to provide required fire support. The V/STOL capability of the AV-8B is well suited for providing dedicated close air support to Marine ground forces. The AV-8B offers a quantum leap forward in basing options. It can operate from ships as small as an LPH, from rapidly built expeditionary airfields, from forward sites like roads, and even from damaged conventional airfields. The addition of night attack and radar capabilities allows the AV-8B to be responsive to the needs of the MAGTF for expeditionary night and adverse weather offensive air support.

**PROGRAM STATUS:**

Sixty older day attack aircraft are programmed to be remanufactured though FY00. Twelve additional aircraft are required to be remanned in FY01.

**DEVELOPER/  
MANUFACTURER:**  
McDonnell Douglas





# AH-1W "Super Cobra"

## DESCRIPTION:

The AH-1W is a multi-mission, two-place (pilot and gunner/copilot), twin-engine attack helicopter capable of land- or sea-based operations. Its mission is to provide close air support under day/night and adverse-weather conditions. Additional mission tasks include: antiarmor/anti-helicopter operations, armed escort, armed and visual reconnaissance, and supporting arms coordination. The AH-1W has a turreted 20mm gun and is capable of firing a wide variety of precision-guided munitions, including TOW/Hellfire (antiarmor), Sidewinder (anti-air), and SIDEARM (anti-radar). The AH-1W Night Targeting System incorporates a FLIR, video camera, automatic target tracking, and laser range finder/designator to provide night/adverse-weather weapons delivery capability.

## PROCUREMENT PROFILE:

	FY95	FY96	FY97
Quantity:	19*	0	0

\* Includes National Guard and Reserve Equipment-funded aircraft.

## OPERATIONAL IMPACT:

The AH-1W is the Marine Corps attack helicopter. Its multi-task versatility provides the MAGTF commander with a significant force multiplier in both offensive and defensive ground combat. Improved night attack capability provided by the Night Targeting System is critical for around-the-clock, close air support.

## PROGRAM STATUS:

In addition to AH-1W new procurement, 42 AH-1Ts have been converted to AH-1Ws, which brings the total funded inventory to 208, 22 aircraft short of procurement objective.

## DEVELOPER/MANUFACTURER:

Bell Helicopter Textron



**F/A-18 "HORNET"**

**DESCRIPTION:**

The F/A-18 Hornet is a twin-engine, supersonic strike fighter aircraft. It fulfills both air-to-air and air-to-ground mission requirements and can be operated from conventional airfields, expeditionary airfields, or from aircraft carriers. The aircraft incorporates state-of-the-art technology such as digital fly-by-wire flight controls, multimode radar, and lightweight composites. F/A-18Cs delivered since FY90 have an increased night and marginal weather capability, which includes a color digital moving map display, night vision goggle compatible lighting, and a navigation forward looking infrared (NAVFLIR) sensor. A two-seat version, the F/A-18D, incorporates all the warfighting capabilities of the F/A-18C and will include a tactical reconnaissance capability.

**PROCUREMENT PROFILE:**

	FY95	FY96	FY97
Quantity:	0	0	582
(USN/USMC)	24/0	12/0	0/0

Note: The USMC share of new aircraft varies based on transition schedules.

**OPERATIONAL IMPACT:**

The F/A-18C provides a modern multimission offensive and defensive anti-air capability for the MAGTF. The F/A-18D provides the MAGTF with a two-seat platform capable of tactical reconnaissance and tactical air control while retaining the offensive and defensive anti-air capabilities of the F/A-18C. Both aircraft provide the MAGTF commander with flexible and powerful strike/close air support and suppression of enemy air defenses. Advanced avionics allow the pilot to navigate accurately, to strike or image enemy ground targets, and to destroy enemy aircraft. The maintainability and multimission capability make it particularly well suited to the needs of the MAGTF in an austere expeditionary environment.

**PROGRAM STATUS:**

Standup of the sixth and final F/A-18D squadron is under way with deliveries continuing into FY95.

**DEVELOPER/MANUFACTURER:**

McDonnell Douglas





**Avenger**

**DESCRIPTION:**

The AVENGER, formerly referred to as the Pedestal-Mounted STINGER (PMS), consists of a fire control module that includes a rotatable turret with two missile launching platforms (each containing four ready-to-fire STINGER missiles); a .50-caliber machine gun; and a gunner's station mounted on a HMMWV. The system incorporates a forward looking infrared (FLIR) sensor to provide day/night and adverse-weather target tracking. A laser rangefinder provides target range for the missile solution and ensures engagements are conducted within the missile envelope. An operator's display and controls provide the interface to control engagements; monitor system status; and receive, display, and transmit information. A separate remote-control unit allows operation of the system up to 50 meters away, enhancing crew survivability in a static employment.

**PROCUREMENT PROFILE:**

	FY95	FY96	FY97
Quantity:	81	0	0

**OPERATIONAL IMPACT:**

AVENGER will fulfill the requirement for a mobile, low-altitude, air-defense system capable of rapid deployment and 24 hour operations. It will improve engagement time, increase firepower, reduce displacement time, and provide a night engagement capability. Its shoot-on-the-move capability will add a new dimension to short-range air defense.

**PROGRAM STATUS:**

AVENGER is currently in production as a non-developmental item. FOC is FY96.

**DEVELOPER/MANUFACTURER:**

Boeing Aerospace Corporation





## PART 4

### COMBAT SERVICE SUPPORT ELEMENT PROGRAM

The Combat Service Support Element (CSSE) is task-organized to sustain the GCE and ACE beyond their own organic capabilities. It accomplishes this goal by providing several key functions. These include supply, maintenance, deliberate engineering, medical/dental, automated data processing, personal services, food services, transportation, military police, disbursing, and financial management. The CSSE is fully deployable on amphibious shipping and is an integral component of the expeditionary, sea-basing support concept for executing **Operational Maneuver from the Sea**.



## ***Medium Tactical Vehicle Replacement (MTVR) Program***

### **DESCRIPTION:**

The current Marine Corps medium tactical vehicle fleet, which consists of the M939A1 and M809 series trucks, will begin to reach the end of service life in FY02. The poor mobility, limited load carrying capacity, and age of current vehicles make replacement or modernization mandatory. A remanufacturing program of the M939A1 and M809 vehicles will not upgrade standard components but provide a significantly improved medium truck capable of greater mobility, reliability, and transportation capacity.

### **PROCUREMENT PROFILE:**

All Marine Corps medium vehicles will be remanufactured providing an additional 22 year economic useful service life.

### **OPERATIONAL IMPACT:**

The replacement vehicles will provide a tremendous improvement over the current vehicles and retain a dual rating capacity of at least 5 tons off-road and 10 tons on-road.

### **DEVELOPER/MANUFACTURER:**

MTVR alternative vehicles are being developed jointly by the Nevada Automotive Test Center, Silver Spring, NV; Detroit Diesel Engine Corporation of Detroit, MI; Twin-Disc Transmission Corporation of Racine, WI, and the Cummins Engine Corporation of Columbus, IN.



# PART 5

## OTHER SUPPORT TO THE MAGTF

### AN/PVS-7B Night Vision Goggles

#### DESCRIPTION:

The AN/PVS-7B night vision goggle is a third-generation image-intensified night vision device for ground use only. The PVS-7B operates by amplifying ambient starlight and moonlight providing users the capability for a variety of night operations. Range of the PVS-7B is 150 meters for a man-size target. The PVS-7B NVG has a 40-degree field of view, is powered by two AA batteries, and weighs 1.5 pounds. System sensitivity and image resolution of the PVS-7B are improved and significantly better than the system it replaces, the second-generation AN/PVS-5 NVG.

#### PROCUREMENT PROFILE:

	FY95	FY96	FY97
Quantity:	11,955	114	1,917

#### OPERATIONAL IMPACT:

Marine Corps-wide fielding of the PVS-7B will provide an effective capability for night combat operations to include combat support and combat service support. The PVS-7B can be used for weapons employment, reconnaissance, tracked/wheeled vehicle operations, refueling/rearming operations, and maintenance operations. The high reliability of the PVS-7B has reduced the requirement for maintenance support.

#### PROGRAM STATUS:

The PVS-7B is currently in production for the U.S. Army. The Marine Corps is procuring the PVS-7B as an NDI system by exercising options to the Army contract. Fielding began in FY94 to units with urgent operational requirements. Regular fielding began during the 1st Quarter FY95 and will continue through FY98.

#### DEVELOPER/MANUFACTURER:

ITT Defense, Electro-Optical Products Division, and Litton Electron Devices, Electro-Optics Sector





## ***Nuclear, Biological and Chemical (NBC) Defense Program Highlights***

### **DESCRIPTION:**

The Marine Corps is pursuing a number of enhancements that will increase the effectiveness of personnel and units within an NBC environment. Over the past decade, there has been a proliferation of chemical and biological agents. Marines must be able to defend themselves and continue to operate in an NBC environment. The following efforts are on-going:

**Light Nuclear, Biological, and Chemical Reconnaissance System (LNBCRS)** is a joint program with the U.S. Army. The LNBCRS will allow the commander to maneuver his forces around and avoid contaminated areas. The LNBCRS will be used to provide units with accurate and rapid NBC combat hazard information. LNBCRS will locate, mark, and verify the existence of radiological, biological, and chemical hazards in support of land operations ashore. The LNBCRS will reduce deficiencies identified in Mission Area (MA) 23, close combat. The LNBCRS will support the capability to conduct operations in an NBC environment as stated in priority 17 of the Marine Corps Master Plan. This system is anticipated to be used with two host vehicles: Light Armored Vehicle (LAV) to operate with the Marine Division reconnaissance elements, and a High Mobility Multipurpose Wheeled Vehicle (HMMWV) to be deployed by USMC and U.S. Army forces near airfields, forward arming and refueling points (FARPs), on main supply routes, and in support of displacement of command posts. Each platform is composed of two sub-systems: the Base Vehicle (BV) and the Equipment Suite (ES). Full operational capability is scheduled for FY02.

**Joint Service Lightweight Integrated Suit Technology I (JSLIST) Program** is a joint service (USMC, USA, USN, and USAF) protective ensemble development and testing program. The JSLIST I acquisition program implements a modified NDI, rapid-prototyping acquisition strategy. The program consolidates Service chemical protective garment development efforts to achieve efficiencies and minimize the number of different garments types that are fielded. Differing Service requirements are accommodated through test and analysis of multiple materials and several configurations. Mission needs will continue to be met, and shortcomings in current technology remedied. The JLIST Program is looking at Chemical/Biological Protective Overgarments, battle dress uniforms, and underwear. Initial fielding is scheduled for FY97.

**The Small Unit Biological Detector (SUBD)** provides real-time biological agent detection, warning, and identification. This system is self-contained, portable, and requires minimal operations and maintenance support. It has interface capabilities to utilize an alternate power source and to provide two-way communications through a telemetry link, a secure command and control radio frequency link, or through a two wire

surface link. The SUBD delivers both a visual and aural warning upon detection of possible biological agents. An interim capability is scheduled for FY97, with upgrades expected in FY99 and FY02 which will meet the requirements listed above.

**Nuclear, Biological, and Chemical Hazard Information and Warning System (NBC HAZWARN) Program** system will initially consist of a computer with application software, which will be used in concert with a local printer. The software will be capable of generating NBC reports as required by the North Atlantic Treaty Organization (NATO) Allied Technical Publication-45 (ATP-45). In addition, the software will be used to generate standard NBC reports and U. S. Navy developed Vapor Liquid Solids (VLS) track software, a sophisticated program which generates, more realistically than previously available programs, agent concentration contour lines reflecting terrain, weather, and effect specific munitions. The system will process meteorological, Global Positioning System (GPS), and other operator inputs, to automate NBC reports and to forecast downwind spread of NBC hazards. Initial capability is scheduled for FY96.

**Family of Decontaminates** will consist of new decontaminates for use on personnel and equipment. The new Family of Decontaminates will be employed as replacements for the currently used decontaminates, DS-2 and Super Tropical Bleach.

**Canteen Refilling System (CRS)** will enable Marines to refill their canteens from organic five-gallon water containers while in contaminated environments. Initial fielding TBD.

#### **PROCUREMENT PROFILE:**

To be procured in sufficient quantities to adequately sustain Marine Expeditionary Forces (MEFs) during extended operations in an NBC environment.

#### **OPERATIONAL IMPACT:**

Equipment being fielded will ensure Marines can fight in all environments. All of the above equipment is easy to maintain and reliable. Marines will have the capability to conduct extended operations in an NBC environment.

#### **DEVELOPER/MANUFACTURER:**

Principal Design Activity—Chemical Research, Development and Engineering Center (CRDEC), Natick RD&E Center. Engineering, Research, Development Center, Chemical Systems Command, Aberdeen Proving Ground, MD. Marine Corps Systems Command, Quantico, VA. Manufacturers for the above items are unknown at this time.



## ***Training Systems and Devices***

### **DESCRIPTION:**

Training is the key to combat effectiveness and is our major focus of effort during peacetime. This challenging task is met with a standards-based, performance-oriented, and realistic training system that ensures combat readiness. Basic individual skills are an essential foundation for combat and receive heavy emphasis. Reduced operating budgets have a significant impact on our ability to preserve these combat skills and unit readiness. The Marine Corps is continuing to explore and field a number of new training systems and simulators that will contribute significantly to training effectiveness while reducing overall training costs.

**The Indoor Simulated Marksmanship Trainer (ISMT)** is a 4 position trainer and the **Infantry Squad Trainer (IST)** is a 12 position trainer. These systems are interactive video combat skills trainers which allow the simulated firing of a number of weapons using eye safe lasers. Weapons include M16A2, M9, light, medium, and heavy machine-guns, MK19, AT4, SMAW, M203, MP5, UZI, and shotgun. Additional capabilities include forward observer, closed-loop indirect fire trainer, and the use of night vision devices. Scenarios include known-distance qualification courses, shoot/no shoot judgmental situations, and combat situations.

**The Multiple Integrated Laser Engagement System 2000 (MILES 2000)** is the next generation of MILES equipment which consists of a family of low power laser devices simulating the direct fire characteristics of all weapons organic to a Battalion Landing Team. MILES 2000 provides additional capabilities than basic MILES equipment, e.g., longer operating time, exercise feedback, more realistic weapons effects, and MILES equipment for weapons which currently have no MILES capability. The Tank Weapon Gunnery Simulator System (TWGSS) and Precision Gunnery System (PGS) will be fielded for the M1 and LAV-25 as MILES 2000 compatible, precision gunnery devices.

**The Remoted Target System (RETS)** is an automated system of pop-up stationary and moving targets for infantry and antiarmor training. The systems offer computer driven programmed tactical scenarios or can be operated in a manual mode with groups or individual targets raised on command. RETS will significantly enhance the capability to train individual Marines, crew-served weapons teams, small units, and combat vehicle crews in the employment of their weapon system under the most realistic combat shooting scenario possible.



**PROCUREMENT PROFILE:**

	FY95	FY96	FY97
ISMT	41	36	74
IST	0	12	12
MILES (TWGSS)	75	0	0
(PGS)	0	0	0
(2000)	0	0	1 Bn
RETS	2	1	1

**OPERATIONAL IMPACT:**

Training devices and simulators are a proven and cost-effective augmentation for training Marines for the rigors of combat. They enhance training by increasing skill progression and sustainment. Realism is enhanced by offering a wide variety of tactical scenarios and situations which cannot be safely replicated on live-fire ranges and facilities. Simulators are particularly beneficial to forward-deployed forces aboard ship, where maintaining perishable skills is difficult. The use of simulators and training devices supports our Total Force training strategy by providing effective training alternatives to Marine Reserve forces that are geographically distant from major bases and range systems.

**DEVELOPER/MANUFACTURER:**

Various



## ***Individual Combat Clothing and Equipment (ICCE) Program Highlights***

### **DESCRIPTION:**

The clothing and individual equipment used and carried by Marines in the field have a direct and immediate impact on survivability, lethality, and mission accomplishment. The Marine Corps is modernizing ICCE by making them more durable, lighter, less bulky, and more comfortable. By maximizing the use of similar items that are commercially available, the time to field new ICCE is greatly reduced. The following items are on-going:

**The Field Pack, Large, with Internal Frame (FPLIF)** is an internal frame pack that replaced the Large ALICE Pack. Having an internal frame, padded hip belt, and chest strap, the FPLIF improves load carriage by reducing fatigue and stress on the body. A combat patrol pack attaches and detaches from the top of the pack for carrying combat essential items when the FPLIF is dropped.

**The Modular Sleeping Bag** consists of two bags, a lightweight patrol bag and an intermediate cold sleeping bag. The lightweight patrol bag will be utilized in temperate climates and the intermediate cold bag will be utilized in moderately cold climates. The lightweight patrol bag and the intermediate cold bag can be snapped together to form an extreme cold weather sleeping bag that will utilize a common zipper for access into and out of the cocoon style sleeping system.

**The Infantry Shelter** is a two person, three season, modified commercial backpacking tent being developed as a replacement for the shelter half. The free-standing, double-walled tent is made of a lightweight breathable nylon ripstop material and has approximately 14 square feet of vestibule space for storing gear under cover of the blackout protected fly without being in the tent itself.

**The Infantry Combat Boot** is a modified commercial full grain leather boot with an improved inner, middle, and outer sole for dissipation of shock and greater durability; a lug design sole for improved traction; and a lined and/or padded interior for improved comfort. It will probably replace the combat boot.

### **PROCUREMENT PROFILE:**

Most ICCE will be fielded to each Marine in the Fleet Marine Force with certain ICCE fielded to special training allowance pools for drawing.

### **OPERATIONAL IMPACT:**

ICCE that is more durable, lighter, less bulky, and more comfortable reduces fatigue and enhances survivability and lethality of all Marines in combat.

### **DEVELOPER/MANUFACTURER:**

Various commercial outdoor clothing and equipment manufacturers and Government laboratories such as the U.S. Army Natick Research, Development, and Engineering Center.

**LPD 17 (Formerly LX)**

**DESCRIPTION:**

The LPD 17 is optimized for operational flexibility and the lift requirements of a three ship Amphibious Ready Group (ARG). It will carry 720 Marines and have a capacity of 25,000 square feet, 25,000 cubic feet of cargo, a well deck sized for two Landing Craft Air Cushion (LCAC) and a flight deck sized for up to two CH-53 or four CH-46 aircraft. This ship offers the best mix of size, flexibility, and economy.

**PROCUREMENT PROFILE:**

	FY95	FY96	FY97
Quantity:	0	0	0

**OPERATIONAL IMPACT:**

Current emphasis on regional contingencies and rapid deployment by the Navy/Marine Corps team increases the importance of amphibious lifts assets. To overcome future block obsolescence shortfalls caused by retirements of LPDs, LSTs, LKAs, and older LSDs, LPD 17 will augment the versatility of the LHD and LHA helicopter carriers with its well deck and flight operations capability. The LPD 17 program will continue the effort to provide the lift necessary for forward presence and crisis response.

**PROGRAM STATUS:**

The 1990 DON Integrated Amphibious Operations and USMC Air Support Requirements Study reaffirmed the LPD 17 requirement. The LPD 17 Mission Need Statement was validated in September, 1990, and the Defense Acquisition Board (DAB) approved Milestone 0 for LPD 17 in November, 1990. A Cost and Operational Effectiveness Analysis (COEA) was completed in October, 1992, followed by Milestone I approval by the DAB in January, 1993. Preliminary design completed in November, 1993 and was immediately followed by commencement of Contract Design with lead ship contract planned for FY98. Initial delivery is expected in FY03.

**DEVELOPER/MANUFACTURER:**

TBD



# CHAPTER 5

## *Fiscal Resources Overview*





## CHAPTER 5

### *Fiscal Resources Overview*









**W**hile it can credibly be argued that Marine Corps responsibilities are in fact increasing, the Corps has realized a 27 percent decrease in resources over the past 9 years. Maintaining our ability to respond immediately with ready, capable forces involves risks and requires the most judicious application of our scarce resources. Today, we are meeting all commitments with operationally ready and effective forces. That said, however, we must caution that the Corps current “health” is being sustained with resources that should be spent on our future “wellness.”

Today, procurement spending is critically low. Since 1989 our procurement and investment accounts have fallen about 50 percent to support current capability. If further reductions are imposed, the Corps has no choice but to forego critical capability—readiness and end strength. To achieve a balanced program which is capable of satisfying peacetime presence and warfighting requirements, the Marine Corps will require an increase in resources.

This chapter outlines the FY96 DoD Budget resources allocated to the Marine Corps.



# Fiscal Resources

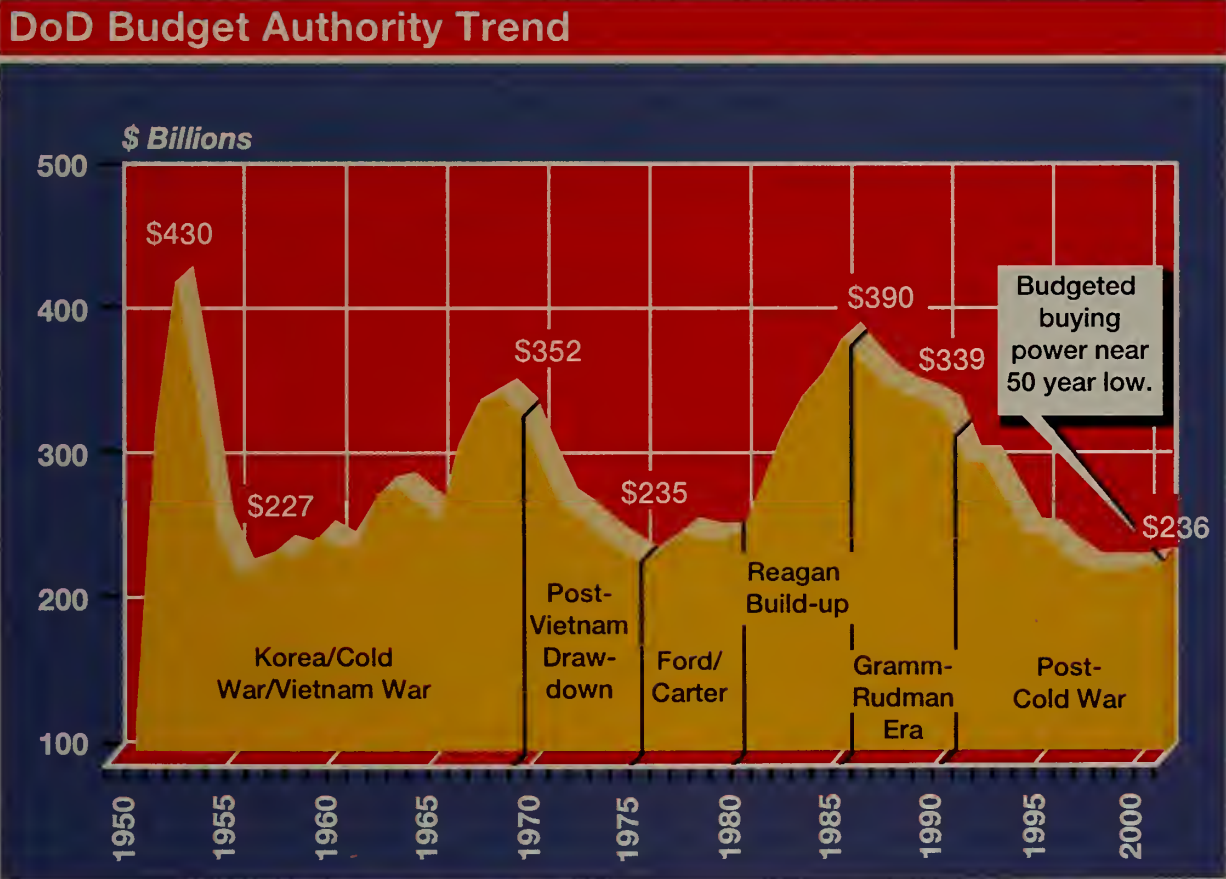
Funds to support the new defense strategy are programmed, budgeted, authorized, appropriated, obligated, and finally expended to cover Service investment and operational requirements. Total Obligational Authority (TOA) refers to the total financial resources available. Budget Authority (BA) refers to financial resources appropriated by Congress. The DoD Planning, Programming, and Budgeting System establishes ground rules for the allocation of DoD TOA. Figure 5–1 displays the BA for all of DoD from FY92 through the FY96 Budget request.

Figure 5–1

BA	FY92	FY93	FY94	FY95	FY96
(FYDP \$B):	281.9	267.4	249.0	252.6	246.0

There is a general perception that defense spending has grown dramatically over the past few years. As can be seen in Figure 5–2, resources allocated to the Defense Department have been steadily declining. The FY96 Budget requests \$246.0 billion in budget authority for the Department of Defense. This continues the real decline in defense spending begun in 1986. In real terms, the FY96 Budget is 39 percent below that of FY85, the peak year for DoD budget budget authority since the Korean War.

Figure 5–2





Viewed in broader terms, defense spending as a percentage of total Federal spending has also decreased. Defense spending as a share of our total outlay is near its lowest point in 30 years. This trend is depicted in Figure 5-3.

Figure 5-3

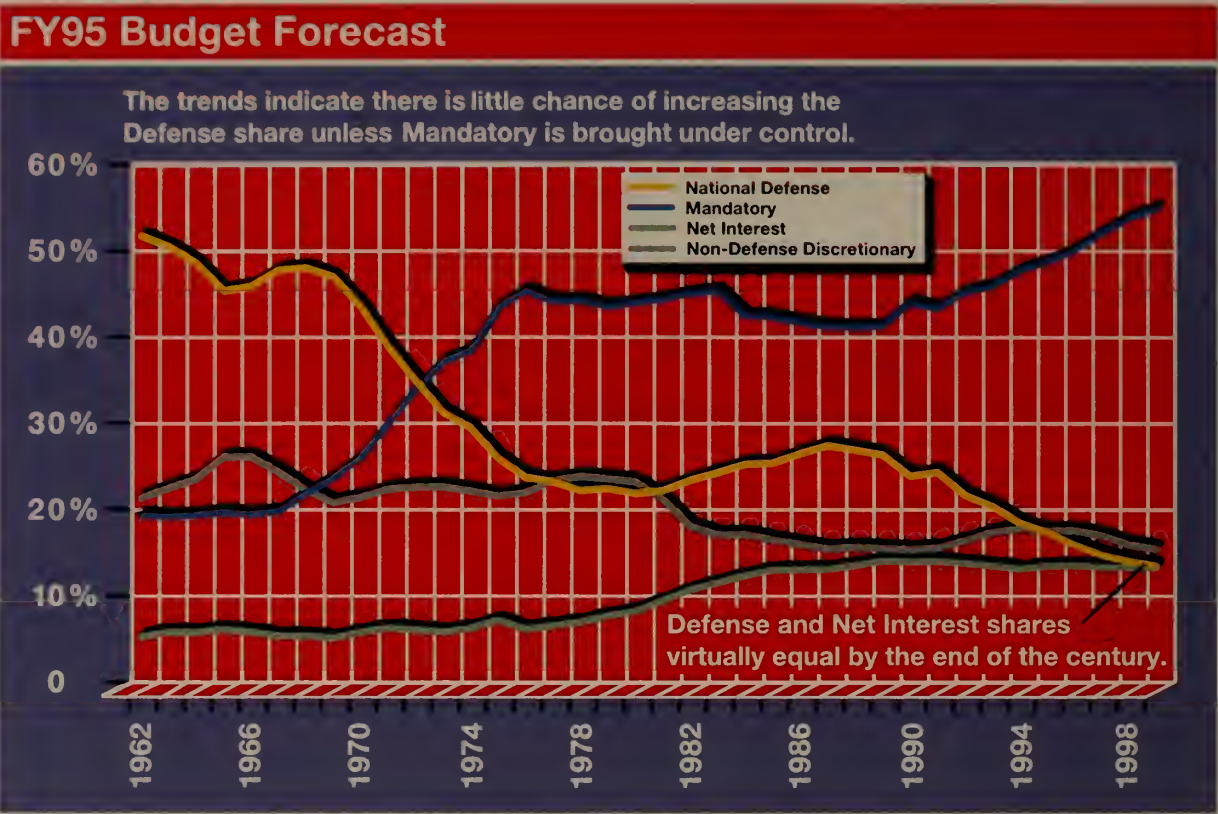


Figure 5-4 is a comparison of the relative amount of resources provided to each Service. Although the Marine Corps share is comparatively small, it leads DoD in converting each and every dollar into credible combat power.

Figure 5-4

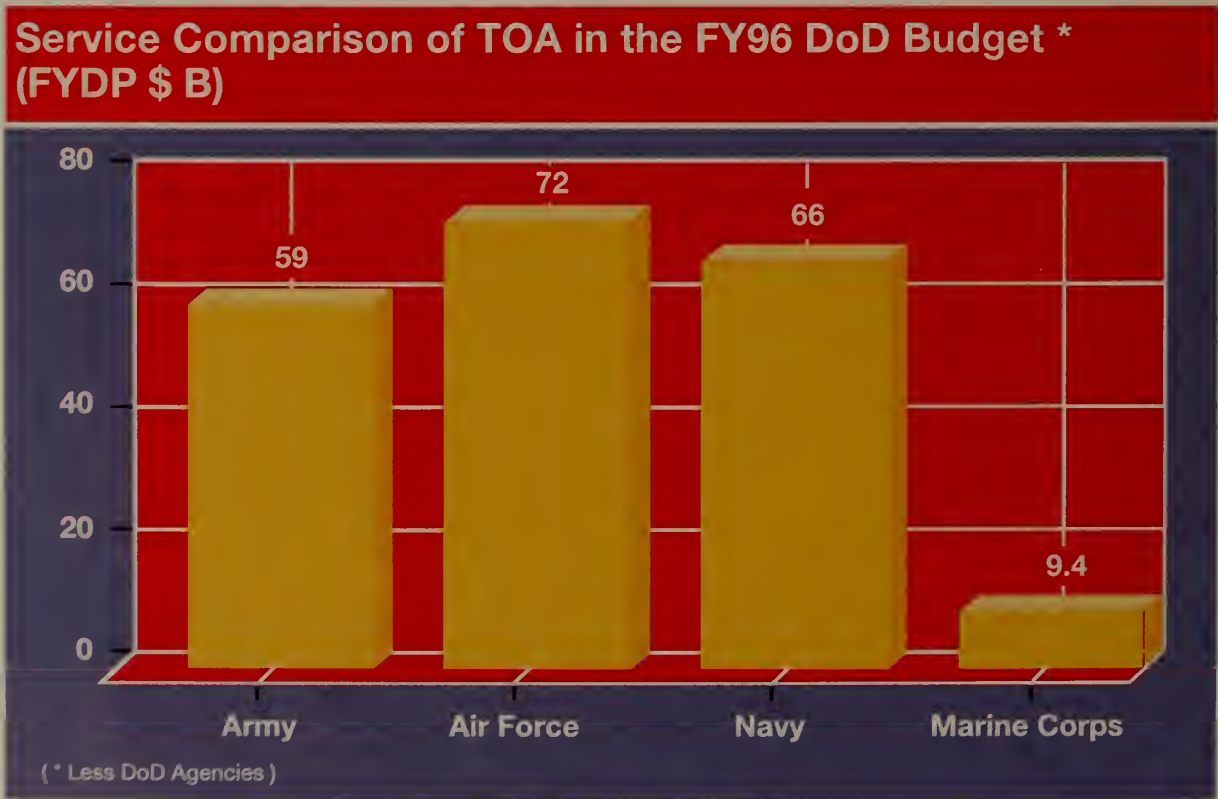
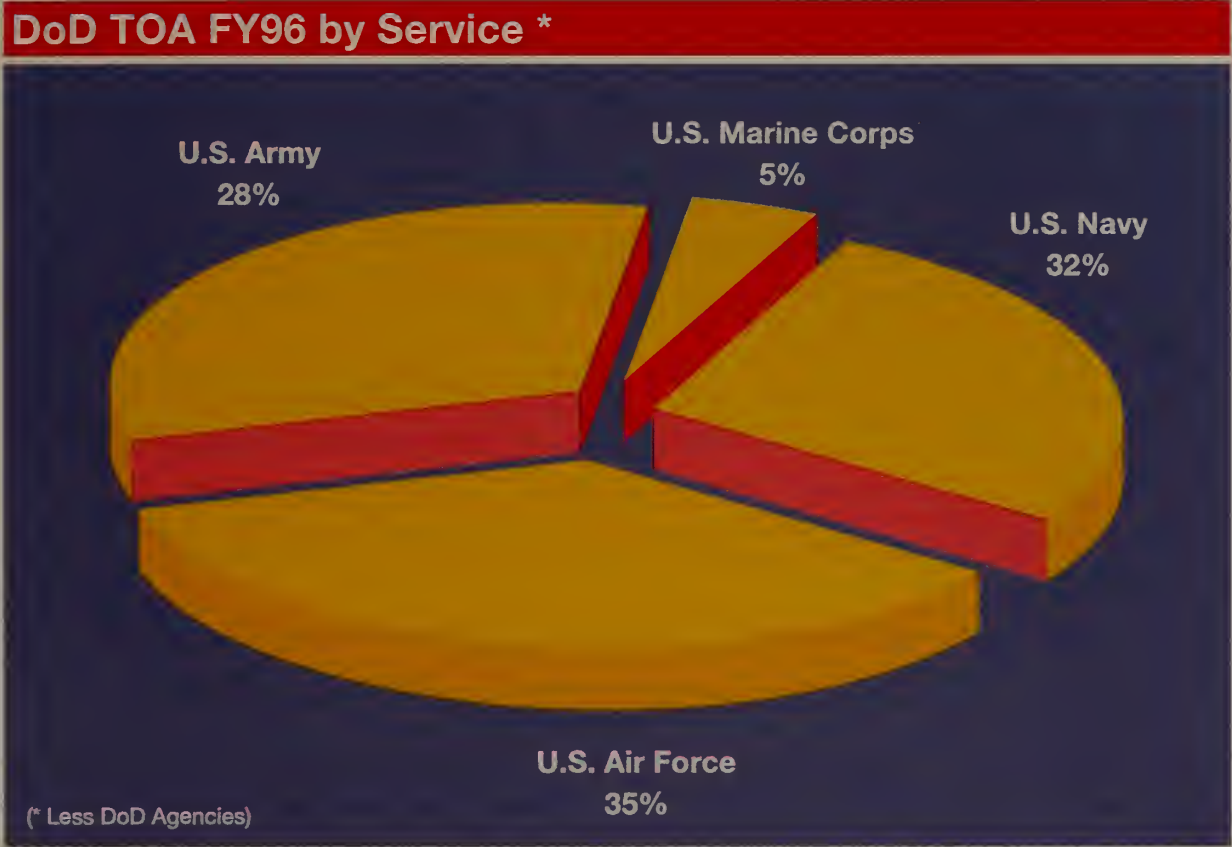


Figure 5-5 depicts the percentage of DoD funds budgeted by each Service. Each Service's TOA is subsequently divided into appropriations. With a little less than 4 percent of DoD's budget, specifically in the Marine Corps account, we provide more than 11 percent of the military personnel and over 14 percent of general purpose forces.

**Figure 5-5**





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## Appropriations

An appropriation is the legal apportionment by an act of Congress to incur obligations for specified purposes and to make payments from the Treasury of the United States. Funds may be expended only for the purpose appropriated. The following are Marine Corps appropriation categories, with a brief synopsis of what each provides:

- **Military Personnel, Marine Corps (MPMC)**—Active and retired pay, allowances, individual clothing, interest on deposits, expenses for organization movements, and expenses for temporary duty travel between permanent duty stations.
- **Reserve Personnel, Marine Corps (RPMC)**—Pay, allowances, clothing, subsistence, gratuities, travel, and related expenses for personnel of the Marine Corps Reserve.
- **Operation and Maintenance, Marine Corps (O&MMC)**—Expenses for support of the FMF, equipment and facilities maintenance, civilian employee pay, travel and transportation, training, consumable supplies, recruiting and advertising, base operations, base communications, and subsistence.
- **Operation and Maintenance, Marine Corps Reserve (O&MMCR)**—Expenses for operation and maintenance, including training, organization, and administration; repair of facilities and equipment; hire of passenger motor vehicles; travel and transportation; and communications for the Marine Corps Reserve.
- **Procurement, Marine Corps (PMC)**—Expenses for the purchase and manufacture of ammunition, weapons and tracked combat vehicles, guided missiles and equipment, communications and electronics, support vehicles, engineer and other equipment, spares, and repair parts.

The following Navy appropriations include functional areas for which the Marine Corps programs and budgets. The complete Marine Corps TOA includes both Marine-unique appropriations described above, as well as resources from the following appropriations:

- **Military Construction, Navy (MCON)**—Acquisition, construction, and installation of permanent public works, naval installations, and facilities for the Navy and the Marine Corps.
- **Family Housing, Navy and Marine Corps (FHN&MC)**—Construction, improvements, operation, maintenance, repair, and design of Navy and Marine Corps housing and ancillary facilities required at bases and stations.
- **Military Construction, Navy Reserve (MCNR)**—Construction, acquisition, expansion, rehabilitation, and conversion of facilities for the training and administration of the Reserve components of the Navy and Marine Corps.



Figure 5–6 displays the TOA allocated to each of each of these appropriations.

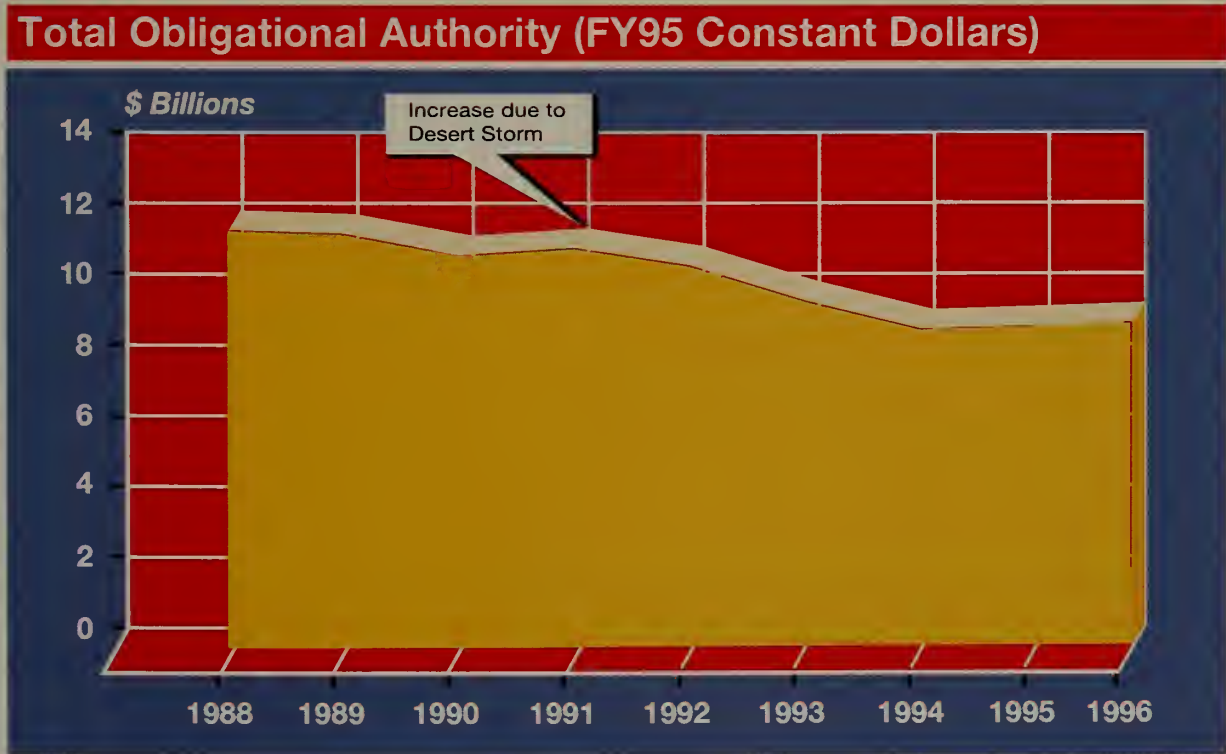
Figure 5–6

Marine Corps TOA (FYDP \$M)				
	FY93	FY94	FY95	FY96
MPMC	5,904	5,732	5,785	5,878
RPMC	340	344	349	362
O&MMC	2,066*	1,903	2,107	2,270
O&MMCR	79	91	82	90
PMC	823	443	554**	474
MCON	56	122	84	127
FHMC	194	129	174	245
MCNR	6	11	5	4
TOTAL	9,468	8,775	9,140	9,449

\* Includes \$96.7M from "Real Property, Maintenance, Defense" account for repairs/minor construction over \$15K.  
\*\* Includes PMC, Ammo.

Figure 5–7 depicts budget trends of the past several years in constant dollar terms. This data reveals the total impact of reduced spending over time. The Marine Corps, in relative and cumulative terms, has absorbed a 25.3 percent reduction in resources since 1987. Further reductions, beyond those already programmed, will severely affect the Fleet Marine Force (FMF) and our ability to maintain ready forces in support of the National Military Strategy.

Figure 5–7



The allocation of Marine Corps resources to specific appropriations for FY96 is shown in Figure 5-8.

Figure 5-8

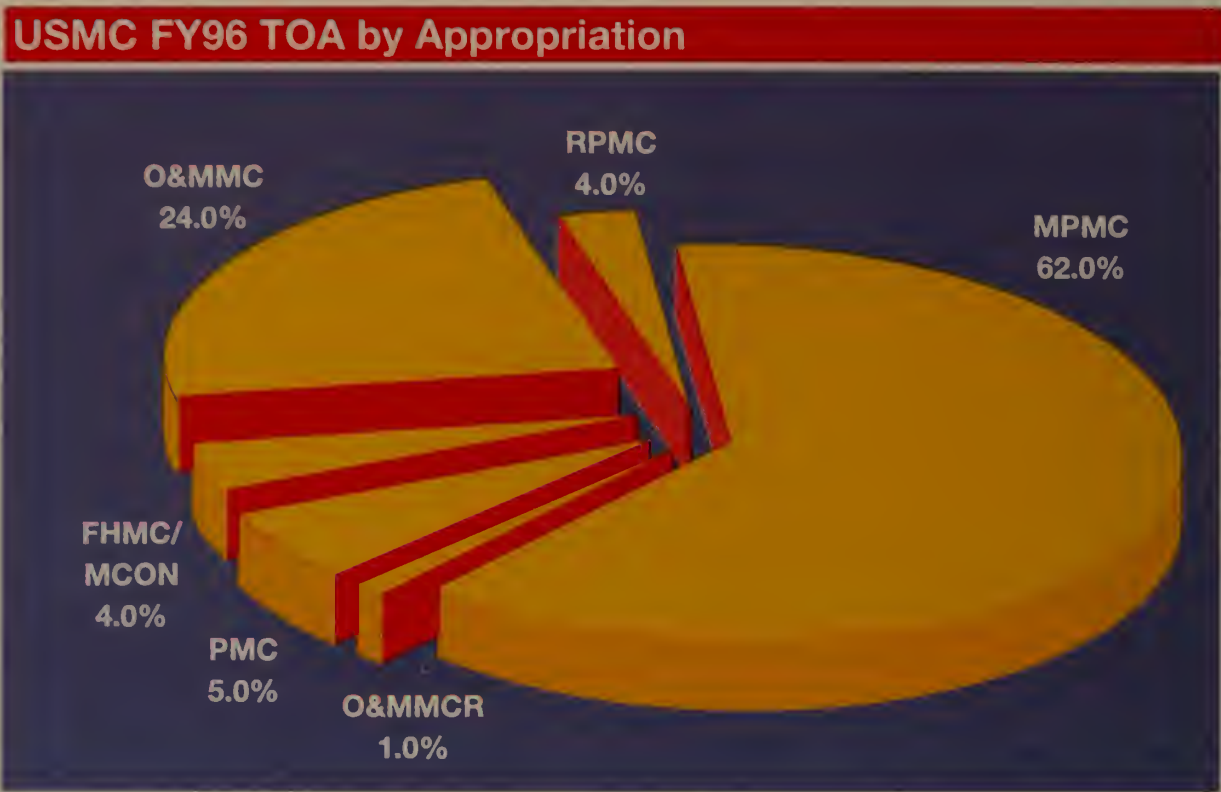


Figure 5-9 depicts how Marine Corps procurement resources (PMC appropriation) are allocated to budget activities in the FY96 Budget.

Figure 5-9

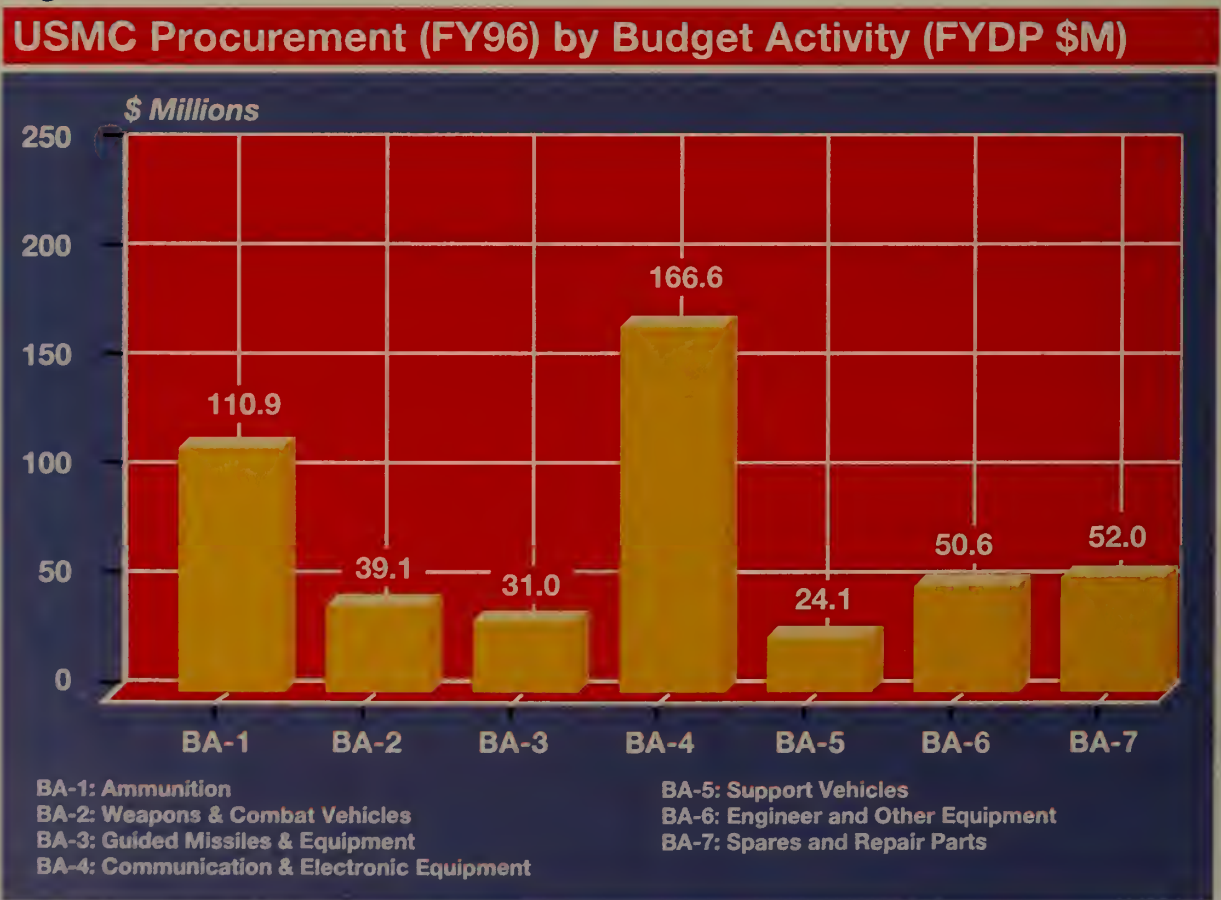
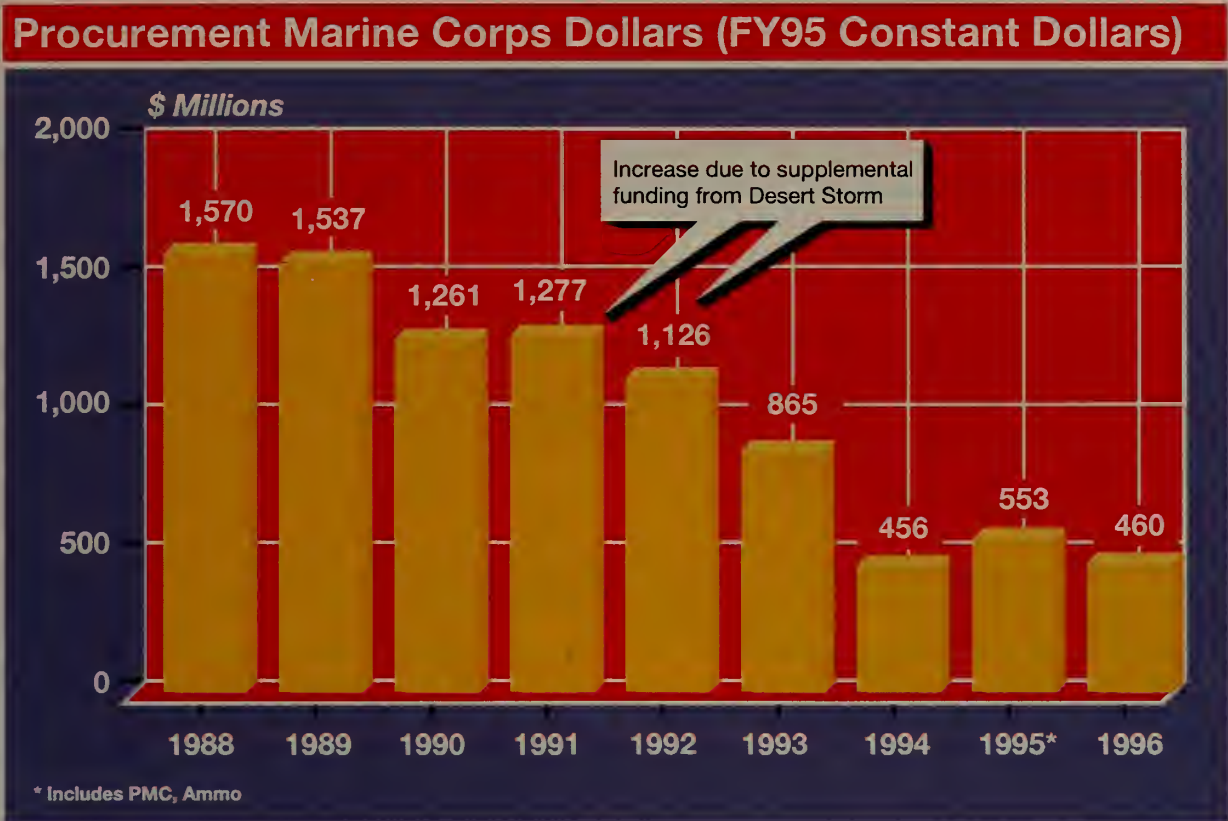




Figure 5-10 depicts the PMC appropriation over the past several years.

Figure 5-10





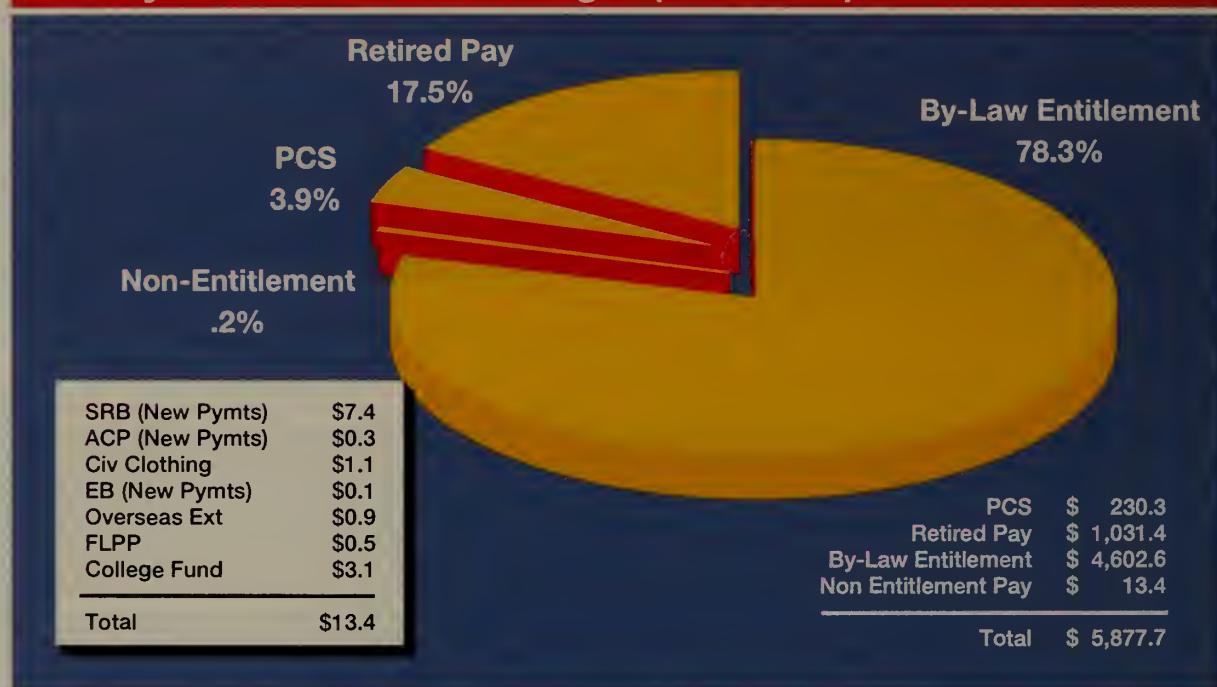
The largest elements within the Marine Corps current budget request are the Manpower appropriations and the Operation and Maintenance (O&M) accounts. Combined, these appropriations make up 91 percent of the Marine Corps FY96 Budget. They support our military personnel, readiness, and operations programs.

## Military Personnel Marine Corps (MPMC) Budget

The Marine Corps budget, like its contribution to national security, is manpower intensive. The MPMC account makes up 62 percent of the Marine Corps budget. The MPMC resources are distributed in the categories shown in Figure 5-11.

**Figure 5-11**

### Military Personnel FY96 Budget (FYDP \$M)



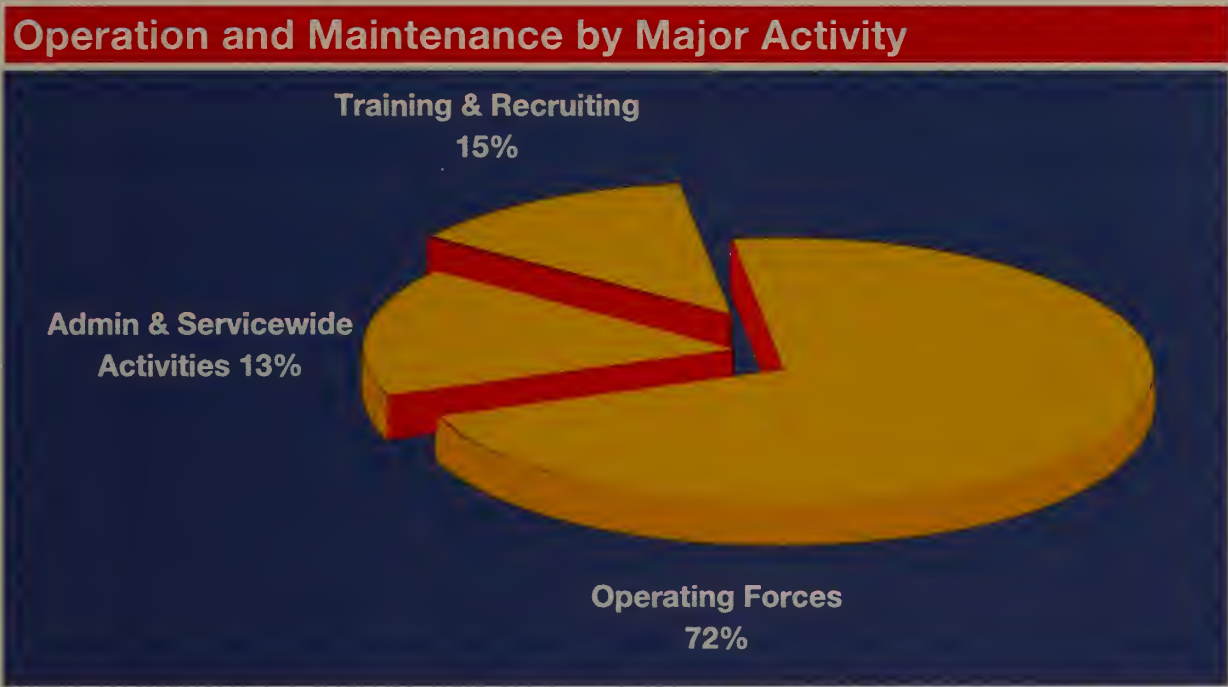
Non-entitlement programs include the Selective Reenlistment Bonus (SRB), Enlistment Bonus (EB), Aviation Career Pay (ACP), and Foreign Language Proficiency Pay (FLPP). These payments are discretionary in nature, which means that the Marine Corps determines who qualifies and receives them. Non-entitlement pays make up 0.2 percent of the MPMC budget. Retired pay and by-law entitlements constitute 95.9 percent of the MPMC budget. These pays, which include basic pay, subsistence allowance, and housing allowance are determined by law and must be paid to all eligible Marines. No discretionary actions are associated with these types of pay.

The last category is Permanent Change of Station (PCS) funds. They include accession and separation moves as well as operational, rotational, and training moves. By their nature, PCS moves have a discretionary and non-discretionary aspect and account for 3.9 percent of the MPMC budget.

# Operation and Maintenance, Marine Corps (O&MMC) Budget

The O&MMC budget request of \$ 2.3 billion represents, in real terms, a decline of 5 percent over FY92. This reduction, coupled with increased environmental and quality of life requirements, greatly reduces our flexibility in matching ends to means.

Figure 5-12

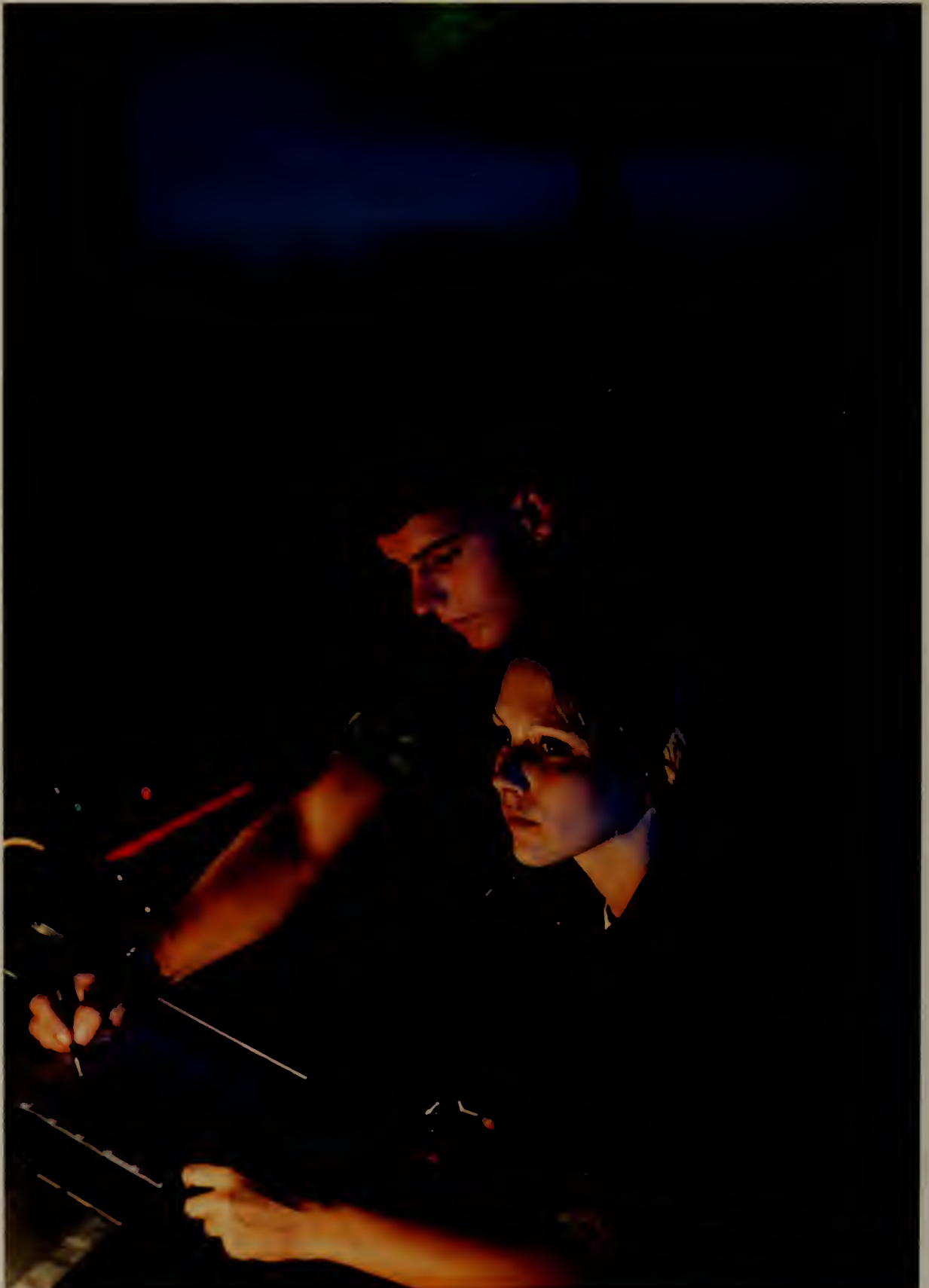


The O&MMC account is a crucial component of our overall readiness (Figure 5-12). Fleet Marine Force and Base operating costs are grouped under “Operating Forces,” the largest portion of the O&M appropriation. The supporting establishment, which is essential to Fleet Marine Forces, provides the housing, feeding, training ranges/areas, and other essential facilities and services to support operational and training requirements and provide for the welfare of our Marines and dependents. Maintenance of this infrastructure provides quality of life for our Marines while protecting the investment in these facilities and ensuring an adequate working and training environment.

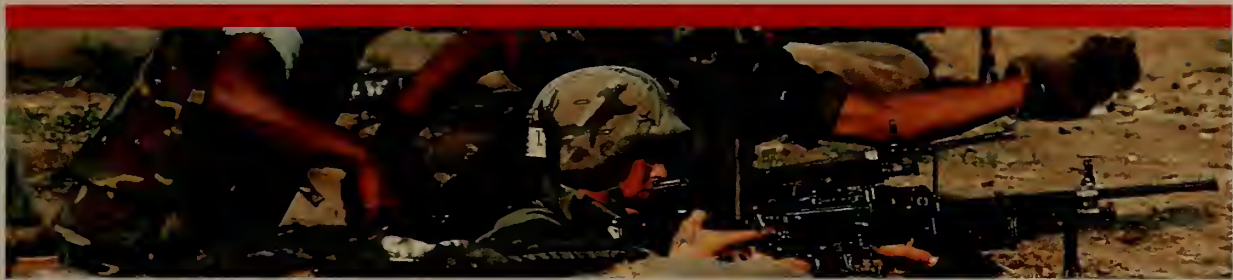
Subactivity groups under Operating Forces provide the essential logistics functions which allow us to maintain the readiness and sustainability of weapons and equipment used by our forces. Our logistics bases provide support and depot level maintenance to sustain the daily operations of Fleet Marine Forces, as well as to maintain weapons and equipment for the Maritime and Geographic Prepositioning Programs. Our budget request provides continued support for this vital program through replenishment, modernization, and replacement of equipment during the

MPS maintenance cycle. Also funded under this program are the transportation of materiel to and from Marine Corps logistics bases, and subsistence provided to Marines.

The O&MMC request also supports training, education, and recruiting activities. The Marine Corps emphasizes education and proficiency in the science and art of warfighting. To accomplish this, our education programs strive to ensure that every Marine can either attend a formal school or participate in a structured self-study program.







# APPENDIX A

## HOW THE MARINES ARE ORGANIZED

Marines are organized as a “force-in-readiness” to support national needs. They are divided into three broad categories:

- Operating Forces
- Reserves
- Supporting Establishment

### OPERATING FORCES

Operating forces, considered the heart of the Marine Corps, constitute the forward presence, crisis response, and fighting power available to the CINCs. Major elements include the Fleet Marine Forces, Marine Corps Security Forces at naval installations and shipboard detachments, and the Marine Security Guard Battalion with its detachments at embassies and consulates around the globe. About 70 percent of all active duty Marines are assigned to these operating forces.



Consistent with the Goldwater-Nichols Defense Reorganization Act and DoD emphasis on joint operations, each combatant CINC (USCINCA, USCINCEUR, USCINCSOUTH, USCINCPAC, and USCINCENT) is assigned a Marine Component for planning purposes, and is allocated Marine forces for execution of various operational plans. Marine operating forces are provided by the Commander, Marine Forces, Atlantic (COMMARFORLANT), and the Commander, Marine Forces, Pacific (COMMARFORPAC). COMMARFORLANT also performs Service component functions for USCINCA, USCINCEUR, and USCINCSOUTH. Likewise, COMMARFORPAC performs those functions for USCINCPAC and USCINCENT.

The major operating force in the eastern United States is II Marine Expeditionary Force (II MEF), located at bases in North and South Carolina. The major operating forces in the west are I MEF, based in California, and III MEF, which is forward-based in Okinawa and mainland Japan. All three MEFs provide Marine Expeditionary Units (MEUs) for service afloat.

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## **Marine Air-Ground Task Force (MAGTF)**

The primary objective of the Marine Corps, as a naval expeditionary force, is to provide combatant CINCs with an effective means of dealing with the uncertainties of future threats, providing as it does, forward-deployed units that are inherently balanced, sustainable, flexible, responsive, expandable, and credible. MAGTFs (pronounced “mag-taffs”) operate forward from the sea as task organized, combined-arms components of naval expeditionary forces; and are equipped and trained to conduct forward presence and crisis-response missions while operating in the littoral areas of the world.

### ***MAGTF Capabilities***

MAGTF capabilities are not built merely to wait for the next amphibious assault or regional war; they are deployed every day. Through experience, realistic procedures, and honed training routines, the Marine Corps stands ready to respond. Our organization has evolved toward the uncertain world situations we currently face, and has repeatedly demonstrated its worth.



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**Embarked aboard amphibious shipping, MAGTFs provide decision makers with the capabilities to:**

- Move forces into crisis areas without revealing their exact destinations or intentions
- Provide continuous presence in international waters
- Provide immediate national response in support of humanitarian and natural disaster relief operations
- Provide credible but nonprovocative combat power just over the horizon of a potential adversary, for rapid employment as the initial response to a crisis
- Support diplomatic processes for peaceful crisis resolution before employing immediately responsive combat forces
- Project measured degrees of combat power ashore, if required
- Introduce additional forces sequentially into a theater of operations
- Operate independent of established airfields, basing agreements, and overflight rights
- Conduct combat operations ashore using inherent combat service support brought into the area of operations
- Enable the introduction of follow-on Army and Air Force units by securing staging areas ashore
- Withdraw rapidly at the conclusion of operations or remain to help restore stability to the affected area
- Plan and commence execution of a mission within 6 to 48 hours of receiving a warning order (dependent on size).

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**Regardless of size, all MAGTFs have the following capabilities:**

- Operate as a component of a joint task force
- Enter a battle area at night
- Operate under adverse weather conditions
- Operate from over-the-horizon, without electronic emissions, by surface or air
- Locate the enemy and stabilize the situation
- Engage, kill, or capture the enemy in a rural or urban environment
- Operate in hostile nuclear, biological, and chemical environments
- Provide sea-based sustainment.



## ***MAGTF Composition***

The Marine Corps task organizes for combat consistent with its statutory tasking to “. . . provide forces of combined arms, including aviation . . .” by forming forces into integrated, combined-arms MAGTFs employed to accomplish assigned missions. MAGTFs are specifically tailored for rapid deployment by air and/or sea.

### **All MAGTFs are comprised of four elements:**

#### ■ ***Command Element (CE)***

The CE is the MAGTF headquarters. As with all other elements of the MAGTF, it is task organized to provide the command, control, and coordination essential for effective planning and execution of operations.

#### ■ ***Ground Combat Element (GCE)***

The GCE is task organized to conduct ground operations to support the MAGTF mission. It is formed around an infantry organization reinforced with requisite artillery, reconnaissance, armor, and engineer forces and can vary in size and composition from small teams to one or more Marine Divisions.

#### ■ ***Aviation Combat Element (ACE)***

The ACE is task organized to perform those functions of Marine Corps aviation required to support the MAGTF mission. It is formed around an aviation headquarters and can vary in size and composition from an aviation detachment of specifically required aircraft to one or more Marine Aircraft Wings.

#### ■ ***Combat Service Support Element (CSSE)***

The CSSE is task organized to provide the full range of combat service support functions and capabilities necessary to support the MAGTF mission. It is formed around a combat service support headquarters and may vary in size and composition from a support detachment to one or more force service support groups (FSSG).

### **The Marine Air-Ground Task Force**



## ***Types of MAGTF Organizations***

Regardless of size, all MAGTFs are expeditionary. An expeditionary force is an organization tailored for a specific mission, vice a structure. Thus, any size MAGTF could be referred to as a Marine expeditionary force. However, to provide a frame of reference for general sizing, MAGTFs are categorized in the following three types:

- **Marine Expeditionary Force (MEF)**
- **Marine Expeditionary Unit (MEU)**
- **Special Purpose MAGTF (SPMAGTF).**

### ■ ***Marine Expeditionary Force (MEF)***

The MEF is the principal Marine Corps warfighting organization, particularly for a larger crisis or contingency, and is normally commanded by a lieutenant general. A MEF can range in size from less than one, to multiple divisions and aircraft wings, together with one or more force service support groups.

With 60 days of accompanying supplies, MEFs are capable of both amphibious operations and sustained operations ashore in any geographic environment. The MEF command element is capable of performing the mission of a joint task force headquarters with appropriate augmentation.

MEFs are the primary “standing MAGTFs” (i.e., they exist in peacetime as well as wartime). Currently the Marine Corps is organized with three standing MEFs, each with a division, wing, and FSSG. Marine component headquarters (COMMARFORLANT or COMMARFORPAC) may form smaller MAGTFs from these MEFs. The Marine Corps reservoir of combat capabilities—the divisions, wings, and force service support groups—are assigned to these standing MEFs.

A MEF will normally deploy in echelon and will designate its lead element as the MEF (Forward).

### ■ ***Marine Expeditionary Unit (MEU)***

The MEU is normally composed of a reinforced infantry battalion, a composite helicopter squadron (normally includes attack helicopters, transport helicopters, air refuelers/transport aircraft, light attack fixed wing aircraft, and command and control assets), a MEU Service Support Group (MSSG), and a command element. The MEU is commanded by a colonel and deploys with 15 days of accompanying supplies.

Forward deployed MEUs embarked aboard Amphibious Ready Group (ARG) shipping operate continuously in the areas of responsibility of numerous Unified Commanders. These units are deployed as an immediately responsive sea-based MAGTF to meet forward presence and limited power projection requirements.

# Forward Operating Marine Forces



3,700 Permanent Overseas

22,700 Unit/Individual Rotation

CMC-I/1155-4/JO/94

## ■ **Special Purpose MAGTF (SPMAGTF)**

The SPMAGTF is task organized to accomplish specific missions for which the MEF or MEU would be inappropriate or too large to employ. SPMAGTFs can be organized, trained, and equipped to conduct a wide variety of expeditionary operations in response to a crisis or a peacetime mission. They are designated as SPMAGTF with a location: e.g., SPMAGTF (Somalia). Their duties cover the spectrum from noncombatant evacuation to disaster relief and humanitarian missions.

## **MAGTF Sustainability**

A fundamental characteristic of a MAGTF is its ability to operate for extended periods as an expeditionary force, relying on internal resources for sustainment. All MAGTFs have inherent sustainability to be self-sufficient for preplanned periods. Larger MAGTFs have a deeper, broader, and more capable organic support capability. MAGTFs deploy with a portion of their accompanying supplies sufficient for a specific period of time:

- MEF—60 days
- MEU—15 days
- SPMAGTF—As the situation requires.

MAGTFs can augment their organic sustainability by using external support from Navy organizations, wartime host nation support (WHNS) agreements, interservice support agreements (ISSAs), and in-theater cross service support.



## ***Maritime Prepositioning Forces (MPF)***

MPFs provide an added dimension in mobility, readiness, and global responsiveness. The MPF program involves 13 ships, organized in three squadrons. These squadrons are strategically positioned in the Mediterranean Sea, the Indian Ocean, and the Pacific Ocean. The MPF program reduces MAGTF response time from weeks to days by prepositioning the bulk of equipment, and 30 days of supplies, for a 17,300-Marine force aboard specially designed ships. Personnel and selected equipment can be airlifted quickly, using roughly 250 airlift sorties, to an objective area to join with required equipment at a secure site. Equipment and supplies can also be selectively offloaded to support smaller MAGTFs.

As graphically demonstrated in Operation **Desert Shield**, MPFs are integral to the rapid deployment of credible combat power. MPF program flexibility has been increased through selective and innovative loading plans and development of enhanced deployment options. We are enlarging the development of specific capability packages tied to supporting unique mission requirements.

## ***Unique Forces and Capabilities Provided to Unified Commanders***

A CINC or subordinate commander may also require Marine forces that do not possess all elements of a MAGTF; thus, they are not given a MAGTF designation. Examples are installation security forces, engineer and medical support teams for humanitarian operations, deployments for training, law enforcement operations, and mobile training teams.

In these cases, forces will be designated by the name of the senior headquarters having operational control; e.g., 1st Combat Engineer Battalion (Rein), 1st Marine Division.

### **■ *Marine Expeditionary Units (Special Operations Capable)***

Task organized, trained, and equipped to conduct a wide variety of conventional and selected maritime special purpose missions, all forward deployed MEUs have completed specialized training and evaluation and are designated Special Operation Capable (SOC).

Currently, COMMARFORLANT and COMMARFORPAC maintain forward deployed MEU(SOC)s in the Mediterranean and Persian Gulf regions, and a MEU(SOC) has been established in Japan.

### **■ *Air Contingency Force (ACF)***

Developed by both COMMARFORLANT and COMMARFORPAC, ACFs provide air deployable forces to the Unified Commanders, with lead elements ready to deploy within 16 hours of notification. ACFs provide great versatility in that they can be used as part of the fly-in echelon of a maritime prepositioning force, as reinforcement for an amphibious force, or as the lead element of a MEF.

### ■ **Norway Prepositioning Program**

Similar in concept to the MPF, but land-based, this program currently stores supplies and combat equipment at secure locations in Norway for an airlifted force. Forward positioning of equipment saves both reaction time and tremendous additional airlift assets.

### ■ **Marine Corps Security Forces (MCSF)**

About 4,000 Marines protect key naval installations and facilities worldwide. Although not assigned to combatant commands, they are part of the operating forces of the Marine Corps, and contribute to our global combat power. These security forces include Marine Barracks and Marine Security Force Companies in CONUS and abroad, as well as Marine Detachments afloat.

The MCSF battalion contains a Fleet Antiterrorism Security Team (FAST) company. FAST Marines deploy to reinforce high threat locations, provide security for nuclear fueling operations, and respond to other crises and contingencies as directed. Although not assigned to Unified Commanders, FAST units are available through naval service channels, and were used during Operations **Just Cause**, **Sharp Edge**, **Desert Storm**, **Restore Hope**, and **Restore Democracy**.

### ■ **Marine Security Guard Battalion**

The Marine Corps also provides forces to the Department of State for embassy security. Organized into the Marine Security Guard Battalion, these Marines are assigned to 127 diplomatic posts in 115 different countries throughout the world.

## **RESERVES**

In addition to active forces, force expansion is made possible by the activation of the Marine Corps Reserve, which, like the active forces, consists of a combined-arms force with balanced ground, aviation, and combat service support units. Organized under the Commander, Marine Forces Reserve, units of this command are located at 191 training centers in 46 states, Puerto Rico, and the District of Columbia.

Over the past several years, the Marine Corps Reserve has been closely integrated with the active component in our Total Force concept. The Reserves provide individuals and specific units to augment and reinforce active capabilities.

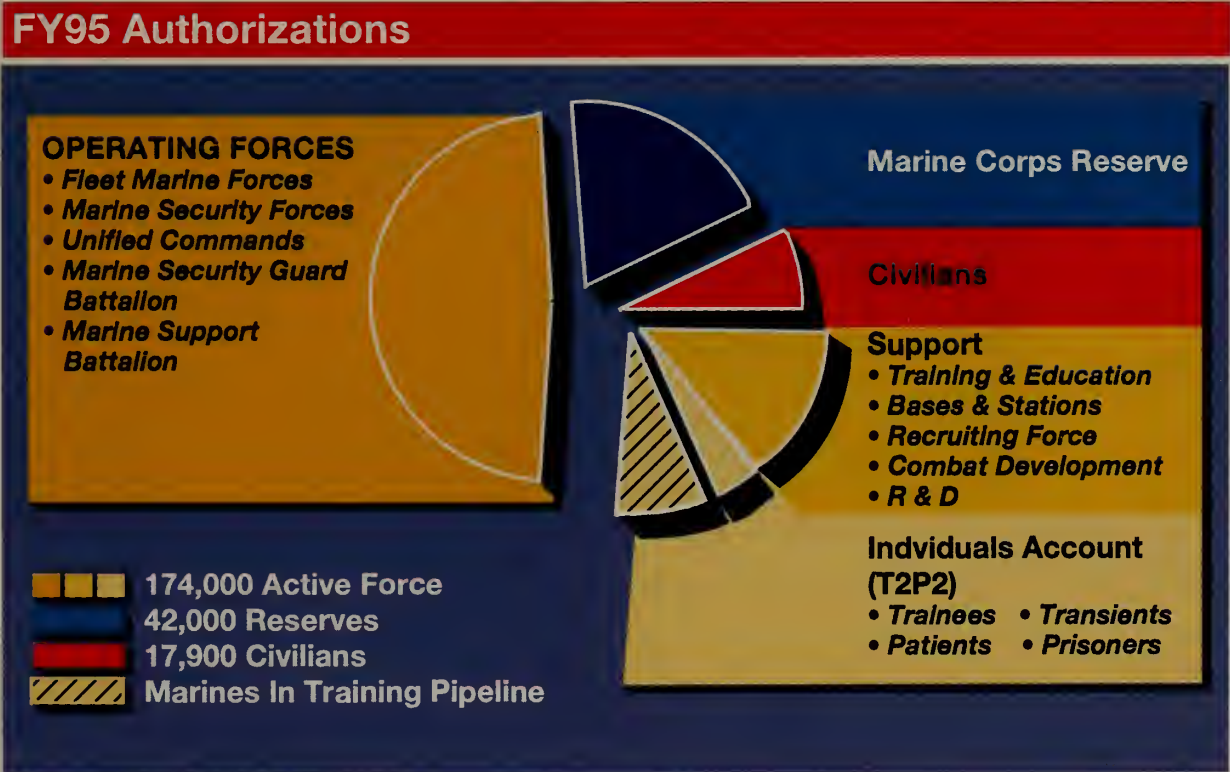
# SUPPORTING ESTABLISHMENT

The Supporting Establishment—30,000 Marines—staff our 16 major bases, training activities, formal schools, the Marine Corps Recruiting Command, the Marine Corps Combat Development Command, the Marine Corps Systems Command, and Headquarters, U.S. Marine Corps. The Supporting Establishment’s contributions are vital to the overall combat readiness of the Marine Corps.

## Marine Corps Total Force

Figure A–1 depicts the Marine Corps Total Force. There is a direct relationship between the size of the Marine Corps and the contribution made to our national defense. Large scale deployments, operations, and training exercises with allies are part of our training and presence requirements in peacetime. About 23 percent of our operating forces are forward-deployed during peacetime, which predicates a high deployment tempo and a corresponding CONUS rotation base. As the U.S. retains a desire to maintain stability in areas where we have significant interests, the requirement for forward-deployed forces will continue.

Figure A–1









## APPENDIX B

# ABBREVIATIONS AND ACRONYMS

This appendix provides a list of abbreviations and acronyms which are commonly used in Marine Corps correspondence, publications, and daily dialog. It is envisioned as a reference document and not all listed acronyms are included in this publication.

<b>AAAV</b>	Advanced Amphibious Assault Vehicle
<b>AAV</b>	Assault Amphibious Vehicle
<b>AAWS-M</b>	Advanced Antitank Weapon System-Medium
<b>ACE</b>	Aviation Combat Element
<b>ACF</b>	Air Contingency Force
<b>ACS</b>	Advance Countermine System
<b>ADCP</b>	Air Defense Communications Platform
<b>AE</b>	Assault Echelon
<b>AFATDS</b>	Advanced Field Artillery Tactical Data System
<b>AFOE</b>	Assault Follow-On Echelon
<b>AMC</b>	Air Mobility Command
<b>ANGLICO</b>	Air Naval Gunfire Liaison Company
<b>AOA</b>	Amphibious Objective Area
<b>AOR</b>	Area of Responsibility
<b>APC</b>	Armored Personnel Carrier
<b>APN</b>	Aircraft Procurement, Navy
<b>APOBS</b>	Antipersonnel Obstacle Breaching System
<b>ARBS</b>	Angle Rate Bombing System
<b>ARDEC</b>	Army Research, Development, and Engineering Center
<b>ARG</b>	Amphibious Ready Group
<b>ASP</b>	Ammunition Supply Point
<b>ATACC</b>	Advanced Tactical Air Command Central
<b>ATARS</b>	Advanced Tactical Aerial Reconnaissance System
<b>ATF</b>	Amphibious Task Force
<b>ATO</b>	Air Tasking Order
<b>BA</b>	Budget Activity/Authority
<b>BRAC</b>	Base Realignment and Closure
<b>BUR</b>	Bottom-Up Review
<b>C4I</b>	Command, Control, Communications, Computers, and Intelligence
<b>CAM</b>	Chemical Agent Monitor
<b>CATF</b>	Commander Amphibious Task Force

<b>CAX</b>	Combined Arms Exercise
<b>CBRS</b>	Concept Based Requirements System
<b>CBV</b>	Combat Breacher Vehicle
<b>CDP</b>	Combat Development Process
<b>CE</b>	Command Element
<b>CECM</b>	Communication Electronic Countermeasures
<b>CENTCOM</b>	Central Command
<b>CG</b>	Commanding General
<b>CI</b>	Counterintelligence
<b>CIL</b>	Critical Items List
<b>CINC</b>	Commander-in-Chief
<b>CJTF</b>	Commander Joint Task Force
<b>CMC</b>	Commandant of the Marine Corps
<b>CMV</b>	Combat Mobility Vehicle
<b>CNA</b>	Center for Naval Analyses
<b>COE</b>	Common Operating Environment
<b>COE</b>	Concept of Employment
<b>COEA</b>	Cost and Operational Effectiveness Analysis
<b>COMINT</b>	Communications Intelligence
<b>COMMARFORLANT</b>	Commander Marine Forces Atlantic
<b>COMMARFORPAC</b>	Commander Marine Forces Pacific
<b>COMSEC</b>	Communications Security
<b>CONUS</b>	Continental United States
<b>CORM</b>	Commission on Roles and Missions of the Armed Forces
<b>COTS</b>	Commercial-off-the-Shelf
<b>CP</b>	Command Post
<b>CRDEC</b>	Chemical Research, Development & Engineering Center
<b>CSS</b>	Combat Service Support
<b>CSSE</b>	Combat Service Support Element
<b>CTAPS</b>	Contingency Theater Automated Planning System
<b>CTT</b>	Commander's Tactical Terminals
<b>CV</b>	Aircraft Carrier
<b>CVAT</b>	Combat Vehicle Appended Trainer
<b>CVBG</b>	Carrier Battle Group
<b>CWG</b>	Core Working Group
<b>DAB</b>	Defense Acquisition Board
<b>DACT</b>	Digital Automated Communications Terminal
<b>DASC</b>	Direct Air Support Central
<b>DBOF</b>	Defense Business Operations Fund
<b>DEPTempo</b>	Deployment Tempo
<b>DF</b>	Direction Finding
<b>DFT</b>	Deployments for Training
<b>DIA</b>	Defense Intelligence Agency
<b>DMA</b>	Defense Mapping Agency
<b>DMRD</b>	Defense Management Review Decision
<b>DNCPPG</b>	Department of the Navy Consolidated Planning and Programming Guidance
<b>DOA</b>	Days of Ammunition
<b>DoD</b>	Department of Defense
<b>DON</b>	Department of the Navy



<b>DOS</b>	Days of Supply
<b>DPG</b>	Defense Planning Guidance
<b>DPRB</b>	Defense Planning and Resources Board
<b>DSN</b>	Defense Switched Network
<b>DT</b>	Developmental Test
<b>DTC</b>	Digital Technical Control
<b>EAF</b>	Expeditionary Airfield
<b>ECCM</b>	Electronic Counter-Countermeasures
<b>ECM</b>	Electronic Countermeasures
<b>EDM</b>	Engineering Development Model
<b>ELINT</b>	Electronics Intelligence
<b>EMD</b>	Engineering and Manufacturing Development
<b>E-MAIL</b>	Electronic Mail
<b>EOB</b>	Electronic Order of Battle
<b>ESP</b>	Extended Service Program
<b>ESS</b>	Electronics Intelligence (ELINT) Support System
<b>ETSS</b>	Extended Training Service Specialist
<b>EW</b>	Electronic Warfare
<b>FAC</b>	Forward Air Controller
<b>FARP</b>	Forward Arming and Refueling Point
<b>FAST</b>	Fleet Antiterrorism Security Team
<b>FDC</b>	Fire Direction Center
<b>FDS</b>	Field Development System
<b>FH</b>	Frequency Hopping
<b>FHN&amp;MC</b>	Family Housing, Navy and Marine Corps
<b>FIE</b>	Fly-in Echelon
<b>FLIR</b>	Forward Looking Infrared
<b>FMF</b>	Fleet Marine Force
<b>FOC</b>	Full Operational Capability
<b>FSCC</b>	Fire Support Coordination Center
<b>FSC2S</b>	Fire Support Command and Control System
<b>FSED</b>	Full Scale Engineering Development
<b>FSSG</b>	Force Service Support Group
<b>FTS</b>	Full-Time Support
<b>FTE</b>	Full-Time Equivalent
<b>FY</b>	Fiscal Year
<b>GCCS</b>	Global Command and Control System
<b>GCE</b>	Ground Combat Element
<b>GOTS</b>	Government-off-the-Shelf
<b>GPS</b>	Global Positioning System
<b>HARM</b>	High Speed Antiradiation Missile
<b>HAW</b>	Heavy Antiarmor Weapon
<b>HEAA</b>	High Explosive Antiarmor
<b>HEAT</b>	High Explosive Antitank
<b>HMMWV</b>	High Mobility, Multipurpose Wheeled Vehicle
<b>HQMC</b>	Headquarters, U.S. Marine Corps

<b>IAC</b>	Intelligence Analysis Center
<b>IAS</b>	Intelligence Analysis System
<b>IBR</b>	Investment Balance Review
<b>ICAD</b>	Individual Chemical Agent Detector
<b>IDA</b>	Institute for Defense Analysis
<b>IDB</b>	Integrated Data Base
<b>IFF</b>	Identification Friend or Foe
<b>IMINT</b>	Imagery Intelligence
<b>INTEL</b>	Intelligence
<b>IOC</b>	Initial Operational Capability
<b>IR</b>	Infrared
<b>IRR</b>	Individual Ready Reserve
<b>IR3B</b>	Integrated Resources and Requirements Review Board
<b>ISMT</b>	Indoor Simulated Marksmanship Trainer
<b>ISR</b>	Intelligence, Surveillance, Reconnaissance
<b>ISSA</b>	Interservice Support Agreement
<b>IST</b>	Infantry Squad Trainer
<b>JCS</b>	Joint Chiefs of Staff
<b>JFACC</b>	Joint Force Air Component Commander
<b>JIC</b>	Joint Intelligence Center
<b>JM</b>	JTIDS Module
<b>JMA/SA</b>	Joint Mission Area/Support Area
<b>JMAPL</b>	JMA/SA Priority List
<b>JMCIS</b>	Joint Maritime Command Information System
<b>JOPES</b>	Joint Operation Planning and Execution System
<b>JOTS</b>	Joint Operational Tactical System
<b>JROC</b>	Joint Requirements Oversight Council
<b>JSCP</b>	Joint Strategic Capabilities Plan
<b>JSIPS</b>	Joint Service Imagery Processing System
<b>JSTARS</b>	Joint Surveillance Target Attack Radar System
<b>JTF</b>	Joint Task Force
<b>JTIDS</b>	Joint Tactical Information Distribution System
<b>JWCA</b>	Joint Warfighting Capability Assessment
<b>JWID</b>	Joint Warrior Interoperability Demonstrations
<b>LAAD</b>	Low Altitude Air Defense
<b>LAAM</b>	Light Antiaircraft Missile
<b>LAI</b>	Light Armored Infantry
<b>LAN</b>	Local Area Network
<b>LAW</b>	Lightweight Antiarmor Weapon
<b>LAV</b>	Light Armored Vehicle
<b>LAV-AD</b>	Light Armored Vehicle-Air Defense
<b>LCAC</b>	Landing Craft Air Cushion
<b>LDS</b>	Lightweight Decontamination System
<b>LEWDD</b>	Lightweight Early Warning Detection Device
<b>LHA</b>	Amphibious Assault Ship—General Purpose
<b>LHD</b>	Amphibious Assault Ship—Multipurpose
<b>LIC</b>	Low Intensity Conflict
<b>LLDR</b>	Lightweight Laser Designator Rangefinder
<b>LLI</b>	Long Lead Item

<b>LMCC</b>	Logistics Movement Control Center
<b>LOGMARS</b>	Logistics Applications of Automated Marking and Reading Symbols
<b>LPH</b>	Amphibious Assault Ship—Helicopter
<b>LP/OP</b>	Listening Post/Observation Post
<b>LRC</b>	Lesser Regional Contingency
<b>LRIP</b>	Low Rate Initial Production
<b>LUT</b>	Limited User Test
<b>LVS</b>	Logistics Vehicle System
<b>MAA</b>	Mission Area Analysis
<b>MACCS</b>	Marine Air Command and Control System
<b>MAFATDS</b>	Multiservice Advanced Field Artillery Tactical Data System
<b>MAG</b>	Marine Aircraft Group
<b>MAGIS</b>	Marine Air-Ground Intelligence System
<b>MAGTF</b>	Marine Air-Ground Task Force
<b>MALSEP</b>	Marine Aviation Logistics Support Program
<b>MARCENT</b>	Marine Forces Central Command
<b>MARCORSYSCOM</b>	Marine Corps Systems Command
<b>MARDIV</b>	Marine Division
<b>MARFORRES</b>	Marine Forces Reserve
<b>MAW</b>	Marine Aircraft Wing
<b>MAW</b>	Medium Antiarmor Weapon
<b>MAWTS-1</b>	Marine Aviation Weapons and Tactics Squadron-One
<b>MBST</b>	Marine Battle Skills Training
<b>MBT</b>	Main Battle Tank
<b>MCAGCC</b>	Marine Corps Air-Ground Combat Center
<b>MCASS</b>	Marine Common Application Support Software
<b>MCAS</b>	Marine Corps Air Station
<b>MCB</b>	Marine Corps Base
<b>MCCDC</b>	Marine Corps Combat Development Command
<b>MCDN</b>	Marine Corps Data Network
<b>MCFSS</b>	Marine Corps Fire Support System
<b>MCHS</b>	Marine Common Hardware Suite
<b>MCIA</b>	Marine Corps Intelligence Activity
<b>MCM</b>	Mine Countermeasures
<b>MCMP</b>	Marine Corps Master Plan
<b>MCMWTC</b>	Marine Corps Mountain Warfare Training Center
<b>MCNR</b>	Military Construction, Navy Reserve
<b>MCON</b>	Military Construction, Navy
<b>MCRC</b>	Marine Corps Recruiting Command
<b>MCSF</b>	Marine Corps Security Forces
<b>MCSSC2</b>	Marine Combat Service Support Command and Control
<b>MCTSSA</b>	Marine Corps Tactical System Support Activity
<b>MEB</b>	Marine Expeditionary Brigade
<b>MEF</b>	Marine Expeditionary Force
<b>MEP</b>	Marine Enhancement Program
<b>MEU</b>	Marine Expeditionary Unit
<b>MEU(SOC)</b>	Marine Expeditionary Unit (Special Operations Capable)
<b>MEWSS</b>	Mobile Electronic Warfare Support System



<b>MHE</b>	Material Handling Equipment
<b>MIIDS</b>	Military Integrated Intelligence Data System
<b>MILES</b>	Multiple Integrated Laser Engagement System
<b>MILSTAR</b>	Military Strategic and Tactical Relay
<b>MLA</b>	Medium Lift Alternative
<b>MLRS</b>	Multiple Launch Rocket System
<b>MNS</b>	Mission Need Statement
<b>MOB</b>	Mobile Operating Base
<b>MOS</b>	Military Occupational Specialty
<b>MOUT</b>	Military Operations on Urbanized Terrain
<b>MPF</b>	Maritime Prepositioning Force
<b>MPMC</b>	Military Personnel, Marine Corps
<b>MPS</b>	Maritime Prepositioning Ship
<b>MPSRON</b>	Maritime Prepositioning Ship Squadron
<b>MRAS</b>	Manpower Requirements Assessment Survey
<b>MRC</b>	Major Regional Contingency
<b>MRS</b>	Mobility Requirements Study
<b>MSC</b>	Military Sealift Command
<b>MTACCS</b>	Marine Tactical Command and Control System
<b>MTT</b>	Mobile Training Team
<b>MTVR</b>	Medium Tactical Vehicle Replacement
<b>MTWS</b>	MAGTF Tactical Warfare Simulation
<b>NALMEB</b>	Norway Air-Landed MEB
<b>NATO</b>	North Atlantic Treaty Organization
<b>NBC</b>	Nuclear, Biological, and Chemical
<b>NCA</b>	National Command Authorities
<b>NCO</b>	Noncommissioned Officer
<b>NDI</b>	Non-Developmental Item
<b>NEF</b>	Naval Expeditionary Force
<b>NEO</b>	Noncombatant Evacuation Operations
<b>NESEA</b>	Naval Electronics System Engineering Activity
<b>NIPRNET</b>	Nonsecure Internet Protocol Router Network
<b>NIPS</b>	Naval Intelligence Processing System
<b>NITF</b>	National Imagery Transmission Format
<b>NMS</b>	National Military Strategy
<b>NSE</b>	Naval Support Equipment
<b>NSF</b>	Navy Stock Fund
<b>NSFS</b>	Naval Surface Fire Support
<b>NTS</b>	Naval Telecommunications System
<b>NVG</b>	Night Vision Goggles
<b>O&amp;MMC</b>	Operation and Maintenance, Marine Corps
<b>O&amp;MMCR</b>	Operation and Maintenance, Marine Corps Reserve
<b>OMFTS</b>	Operational Maneuver from the Sea
<b>OPEVAL</b>	Operational Evaluation
<b>OPTEMPO</b>	Operational Tempo
<b>ORD</b>	Operational Requirements Document
<b>OT&amp;E</b>	Operational Test and Evaluation
<b>OTH</b>	Over the Horizon

<b>PAA</b>	Primary Aircraft Authorization
<b>PALCON</b>	Palletized Containers
<b>PCS</b>	Permanent Change of Station
<b>PERSTEMPO</b>	Personnel Tempo
<b>PGTS</b>	Precision Gunnery Training System
<b>PIP</b>	Product Improvement Program
<b>PLRS</b>	Position Location Reporting System
<b>PMC</b>	Procurement, Marine Corps
<b>PME</b>	Professional Military Education
<b>POM</b>	Program Objective Memorandum
<b>PPBS</b>	Planning, Programming and Budgeting System
<b>PSD</b>	Propulsion System Demonstrator
<b>PWRMS</b>	Prepositioned War Reserve Material Stocks
<b>QOL</b>	Quality of Life
<b>RAC</b>	Riverine Assault Craft
<b>RBE</b>	Remain Behind Equipment
<b>R&amp;D</b>	Research and Development
<b>RDT&amp;EN</b>	Research, Development, Test, and Evaluation, Navy
<b>RETS</b>	Remote Engagement Target System
<b>ROC</b>	Required Operational Capability
<b>RO/RO</b>	Roll-On/Roll-Off
<b>ROWPU</b>	Reverse Osmosis Water Purification Unit
<b>RPMC</b>	Reserve Personnel, Marine Corps
<b>R3B</b>	Resources and Requirements Review Board
<b>SACC</b>	Supporting Arms Coordination Center
<b>SANG</b>	Saudi Arabia National Guard
<b>SAR</b>	Search and Rescue
<b>SATCOM</b>	Satellite Communications
<b>SCN</b>	Shipbuilding and Conversion, Navy
<b>SCRE</b>	Stratified Charge Rotary Engine
<b>SEAD</b>	Suppression of Enemy Air Defense
<b>SEMP</b>	Supporting Establishment Master Plan
<b>SECDEF</b>	Secretary of Defense
<b>SECNAV</b>	Secretary of the Navy
<b>SHF</b>	Super High Frequency
<b>SIDS</b>	Secondary Imagery Dissemination System
<b>SIE</b>	Systems Integration Environment
<b>SIGINT</b>	Signals Intelligence
<b>SINGARS</b>	Single Channel Ground and Airborne Radio System
<b>SIPRNET</b>	Secret Internet Protocol Router Network
<b>SIXCONS</b>	Fuel/Water Storage and Pump Modules
<b>SLOC</b>	Sea Lines of Communication
<b>SMAW</b>	Shoulder-Launched Multipurpose Assault Weapon
<b>SMCR</b>	Selected Marine Corps Reserve
<b>SNCO</b>	Staff Noncommissioned Officer
<b>SOC</b>	Special Operations Capable
<b>SOI</b>	School of Infantry
<b>SPMAGTF</b>	Special Purpose Marine Air-Ground Task Force

<b>SRAW</b>	Short Range Assault Weapon
<b>SRI</b>	Surveillance, Reconnaissance, and Intelligence
<b>SRIG</b>	SRI Group
<b>STOVL</b>	Short Take-Off Vertical Landing
<b>SWA</b>	Southwest Asia
<b>SWMCM</b>	Shallow Water Mine Countermeasures
<b>TACAIR</b>	Tactical Air
<b>TACC</b>	Tactical Air Command Center
<b>TACO</b>	Tactical Communications
<b>TAOM</b>	Tactical Air Operations Module
<b>TAH</b>	Hospital Ship
<b>TAVB</b>	Aviation Logistics Support Ship
<b>TBD</b>	To Be Determined
<b>TCAC</b>	Technical Control and Analysis Center
<b>TCC</b>	Tactical Communications Center
<b>TCIM</b>	Tactical Communications Interface Module
<b>TCO</b>	Tactical Combat Operations
<b>TDN</b>	Tactical Data Network
<b>TEMP</b>	Test and Evaluation Master Plan
<b>TERPES</b>	Tactical Electronic Reconnaissance Processing and Evaluation System
<b>TLAM</b>	Tomahawk Land Attack Missile
<b>T/M/S</b>	Type/Model/Series
<b>TOA</b>	Total Obligational Authority
<b>TOW</b>	Tube-Launched, Optically-Tracked, Wire-Guided Missile
<b>TPCS</b>	Team Portable Communications Intelligence System
<b>TQL</b>	Total Quality Leadership
<b>TRAP</b>	Tactical Recovery of Aircraft and Personnel
<b>TRE</b>	Tactical Receive Equipment
<b>TRHS</b>	Tray Ration Heating System
<b>TRSS</b>	Tactical Remote Sensor System
<b>TWSEAS</b>	Tactical Warfare Simulation, Evaluation, & Analysis System
<b>TWGSS</b>	Tank Weapon Gunnery Simulator System
<b>UAV</b>	Unmanned Aerial Vehicle
<b>UHF</b>	Ultra High Frequency
<b>ULCS</b>	Unit Level Circuit Switch
<b>UNITAF</b>	United Task Force
<b>UNOSOM</b>	United Nations Operations Somolia
<b>UTM</b>	Unit Training Management
<b>VCA</b>	Voice Communications Adapter
<b>VHF</b>	Very High Frequency
<b>V/STOL</b>	Vertical/Short Take-Off and Landing
<b>WAN</b>	Wide Area Network
<b>WHNS</b>	Wartime Host Nation Support
<b>WPN</b>	Weapons Procurement, Navy
<b>WWMCCS</b>	World-Wide Military Command and Control System













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